City of Carlsbad

MITIGATED NEGATIVE DECLARATION

PROJECT NAME: West Oaks

PROJECT NO: GPA 16-04/ZC 16-03/LCPA 16-04/LFMP 87-05(F)/PUD 2018-0004/SDP 16-20/CDP 16-31/SUP 2017-0005/HMP 16-04/MS 2018-0005 (DEV13018)

PROJECT LOCATION: The West Oaks Project is located on an approximately 12.53-acre site (Assessor's Parcel Numbers 212-110-01, -02, -03, -04, -05, -06, -07, -08, 212-040-26) in the City of Carlsbad. The project site is located to the south of Palomar Airport Road and to the west of Palomar Oaks Way.

PROJECT DESCRIPTION: The proposed project consists of 192 multifamily residential units—72 one-bedroom units, 57 two-bedroom units, and 21 three-bedroom units at regular market value and 42 affordable units (24 one-bedroom units, 12 two-bedroom units, and six three-bedroom units), which are included in the total 192 units. The proposed project would also include 373 parking spaces and a leasing and recreation building, recreation areas, and a community pool. Bicycle parking amenities are also proposed. On-site pedestrian circulation to connect with the existing pedestrian sidewalks on the western side of West Oaks Way and on Palomar Airport Road at the western end of the site is also proposed. The project would have a density of approximately 24.6 dwelling units per acre (DU/AC), not including the proposed open space easement. With the open space easement area included, the density of the project would be approximately 15.3 DU/AC. The proposed structures would be three stories and consist mostly of stucco exteriors, brick veneer, and wood or metal railings and decorative awnings. The project includes a General Plan Amendment, a Zoning Amendment, and approval of a Tentative Tract Map. The project is designated for Planned Industrial (PI) and Open Space (OS) in the General Plan and zoned as Planned Industrial (P-M) and Open Space (OS). The proposed General Plan Amendment would change the underlying land use designation to Residential (R-30) and the proposed Zoning Amendment would change the underlying zoning to Residential Density-Multiple (RD-M).

DETERMINATION: The City of Carlsbad has conducted an environmental review of the above described project pursuant to the Guidelines for Implementation of the California Environmental Quality Act and the Environmental Protection Ordinance of the City of Carlsbad. As a result of said review, the Initial Study identified potentially significant effects on the environment, and the City of Carlsbad finds as follows:

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on the attached sheet have been added to the project.

☐ The proposed project MAY have "potentially significant impact(s)" on the environment, but at least one potentially significant impact 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. (Mitigated Negative Declaration applies only to the effects that remained to be addressed).

☐ Although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been

analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, nothing further is required.

A copy of the Initial Study documenting reasons to support the Mitigated Negative Declaration is attached, on file in the Planning Division, 1635 Faraday Avenue, Carlsbad, California 92008, and is available online at: http://www.carlsbadca.gov/services/depts/planning/agendas.asp.

ADOPTED: [CLICK HERE date] , pursuant to [CLICK HERE Administrative Approval, PC/CC Resolution No., or CC Ordinance No.]

ATTEST:

Teri Delcamp
Principal Planner

Initial Study

1. **PROJECT NAME:** West Oaks

2. **PROJECT NO**: GPA 16-04/ZC 16-03/LCPA 16-04/LFMP 87-05(F)/PUD 2018-0004/SDP 16-20/CDP 16-31/SUP 2017-0005/HMP 16-04/MS 2018-0005 (DEV13018)

3. **LEAD AGENCY:**
City of Carlsbad
1635 Faraday Avenue
Carlsbad, California 92008

4. **PROJECT APPLICANT:**
The Carlsbad West Oaks Project Owner, LLC, a Delaware Limited Liability Company
Greg Waite
2235 Encinitas Boulevard, Suite 216
Encinitas, California 92024

5. **LEAD AGENCY CONTACT PERSON:** Cliff Jones, Senior Planner
Office Phone: 760.602.4613
Email: Cliff.Jones@carlsbadca.gov

6. **PROJECT LOCATION:** The West Oaks Project (project or proposed project) is located on an approximately 12.53-acre site (Assessor's Parcel Numbers 212-110-01, -02, -03, -04, -05, -06, -07, -08, 212-040-26) in the City of Carlsbad (city) (Figure 1, Regional Map, and Figure 2, Vicinity Map). The project site is located to the south of Palomar Airport Road and to the west of Palomar Oaks Way (Figure 2). The project is bounded by Palomar Airport Road to the northeast, undeveloped land to the south and southwest, and the Palomar Oaks commercial development to the east. The project site is generally flat and has been previously graded. Several easements exist within the project site, including: County of San Diego (public highway and utilities), City of Carlsbad (storm drainage, public highway, and roadways), San Diego Gas & Electric (SDG&E) (public utilities), Buena Vista Sanitation District (sewer utilities), Vallecitos Water District (sewer utilities), and Carlsbad Municipal Water District.

7. **GENERAL PLAN LAND USE DESIGNATION:** Planned Industrial (PI), Open Space (OS)

8. **ZONING:** Planned Industrial (P-M), Open Space (OS)

9. **PROJECT DESCRIPTION:** The proposed project consists of 192 multifamily residential units—72 one-bedroom units, 57 two-bedroom units, and 21 three-bedroom units at regular market value and 42 affordable units (24 one-bedroom units, 12 two-bedroom units, and six three-bedroom units), which are included in the total 192 units. The proposed project would also include 373 parking spaces and a leasing and recreation building, recreation areas, and a community pool. Bicycle parking amenities are also proposed. On-site pedestrian circulation to connect with the existing pedestrian sidewalks on the western side of West Oaks Way and on Palomar Airport Road at the western end of the site is also proposed. The project would have a density of approximately 24.6 dwelling units per acre (DU/AC), not including the proposed open space easement. With the open space easement area included, the density of the project would be approximately 15.3 DU/AC (Figure 3, Project Site Plan). The proposed structures would be three stories and consist mostly of stucco exteriors, brick veneer, and wood or metal railings and decorative awnings (Figures 4a–4f). The color schemes are shown on Figures 5a, Color Scheme A, and 5b, Color Scheme B.

The project includes a General Plan Amendment, a Zoning Amendment, and approval of a Tentative Tract Map. The proposed General Plan Amendment would change the underlying land use designation to Residential (R-30) and the proposed Zoning Amendment would change the underlying zoning to Residential Density-Multiple (RD-M).

The project includes two options for sewer service:

Option 1, Relocate/Connect to Buena Interceptor: An existing 18-inch Buena Sanitation District Interceptor runs through the easterly portion of the project site, crosses under Encinas Creek in the central portion of the site, and then enters Palomar Airport Road. The project would relocate the easterly portion of the interceptor through the project's northerly drive aisle (formerly West Oaks Way), reconnecting to the existing interceptor prior to crossing under the creek. The proposed buildings would connect to a new on-site private sewer system in the southerly drive aisle which would connect to an existing eight-inch sewer stub that crosses under the creek to Palomar Airport Road. The Buena Interceptor is currently at capacity, and does not have available capacity for the project's sewer flows. Buena Sanitation District has a separately planned improvement project to remove their flows from the interceptor and relocate them to a new force main in Palomar Airport Road. This improvement project is currently under construction by Buena Sanitation District and has an expected completion date of June 2020. The existing 18-inch line would then have sufficient capacity to accommodate the project's flows.

Since the ability to exercise Option 1 is dependent on the construction of Buena Sanitation District's force main in Palomar Airport Road, the project has identified another design option that would provide adequate sewer service to the project.

Option 2, Gravity Flow to Vallecitos Water District Interceptor in Palomar Airport Road: Vallecitos Water District (VWD) has an existing 30-inch interceptor in Palomar Airport Road which has sufficient capacity to provide sewer service to the site. In order to connect to this VWD interceptor via gravity flow, the project would construct an on-site private sewer system flowing to the west end of the site. Near the westerly end of the site, the on-site sewer line would cross under the creek and connect to the existing 30-inch VWD interceptor in Palomar Airport Road. In order to avoid environmental impacts to the creek, this crossing would be constructed using trenchless construction methods, such as "jack and bore" or directional drilling. In this option, the 18-inch Buena Interceptor would remain in-place and undisturbed.

Variations or changes to these options may occur pending discussions and approval by the respective sewer agency, timing of project development, and timing of sewer district improvements separate from the proposed project.

The project proposes stormwater facilities on site and a flood-control structure. The project would also include a 40-foot-wide easement dedicated to the city for public utilities, ingress and egress, and incidental purposes; a 10-foot-wide easement to the city's Municipal Water District for all water utility purposes; a 20-foot-wide to 40-foot-wide easement to Buena Sanitation District for sewer pipelines and incidental purposes; and a conservation easement to the city for open space purposes. The project would include primary access to the site from Palomar Airport Road through Palomar Oaks Way, where a roundabout is proposed to facilitate traffic movements at the project entry. The project would also include an emergency access road to the west of the property from Palomar Airport Road. This emergency access would include a bridge that would allow for continued wildlife movement within Encinas Creek.

An open space lot (4.26 acres) that will include the existing riparian habitat, Encinas Creek, coastal sage scrub, and the riparian buffer areas is proposed. The open space lot, including the riparian habitat and the riparian buffer, will be protected in perpetuity by a restrictive covenant, managed by a city-approved long-term habitat manager, and incorporated into the Carlsbad HMP preserve (Dudek 2019). The upland buffer areas will be managed by the homeowners' association (HOA).The proposed project would include the removal of 23 deteriorating oak trees and the planting of 35 oak trees.

Existing overhead utility lines owned and operated by SDG&E and the associated 100-foot-wide easement traverse a portion of the project site. These include a high voltage 128-kilovolt (kV) and a 69 kV overhead electrical transmission lines. SDG&E has access to these facilities via West Oaks Way, an existing paved roadway. The project would require encroachment into the existing SDG&E easement during construction and for various passive uses including project driveways, parking areas, sidewalks and common areas, landscaping, fire hydrants, and underground utilities, as shown on Figure 6. The total area of passive use encroachment would amount to approximately 121,900 feet. The existing street lights (approximately 25 feet in height) within the SDG&E easement would be removed and replaced with new street lights that would be a maximum of 12 feet in height. All proposed landscape plantings would be in compliance with SDG&E's acceptable species list. The proposed on site driveways and parking areas would provide SDG&E additional staging areas for routine maintenance of the transmission facilities. Construction and operation of the project would not alter or affect the ongoing operations of the existing overhead transmission lines or SDG&E's easement through the project site.

The project is required to implement Transportation Demand Management (TDM) measures. As part of the project, a TDM Plan would be prepared consistent with the city's Transportation Demand Management Handbook and the project features identified through the Vehicle Miles Travelled (VMT) evaluation. The Tier 2 TDM Plan, as amended from time to time with city review and approval, would be implemented throughout the life of the project. A Tier 2 plan consists of implementation of TDM strategies totaling nine points. Specific to the proposed project, four points would be achieved through three required measures (designation of a transportation coordinator, promotion of one citywide TDM event/year, and distribution of a citywide TDM Plan flyer to new tenants). The other five points would be achieved through site-specific measures, with a minimum of four points required through infrastructure strategies.

The project's TDM program would include the following project features to reduce VMT: incorporate affordable housing on-site; develop a pedestrian network and improvements; implement an electric bike-share program; implement a car-share program; promote transit options to residents; promote carpool/vanpool networks for residents and students; and unbundle parking from units. A Transportation Coordinator would be established to monitor the TDM program. Monitoring and reporting of all TDM measures would be completed by the project according to the requirements of the City's TDM Handbook. Refer to *West Oaks TDM Strategies for VMT Reduction Evaluation* for additional information (Fehr & Peers 2020b).

With implementation of the project's TDM program, the project would meet and exceed all City requirements relative to TDM and related VMT reduction.

The project includes the following project design features, inclusive of the TDM program described above:

- The project would improve the amenities (benches and trash cans) provided at two bus stops on Palomar Airport Road.
- The project would provide an ADA compliant concrete walkway along its frontage, connecting the gap in existing walkway. Curb ramps and crosswalks would be provided on the west and south sides of the proposed roundabout.
- The project would not include natural-gas burning fireplaces or woodstoves.
- The project would use electric-based water heating, HVAC equipment, and swimming pool heating.
- The project would include a solar water heating system onsite to heat the swimming pool.
- The project would include 39 electric vehicle capable parking spaces and 20 electric vehicle charging stations in accordance with the City's Ordinance CS-349.
- The project would include Energy Star appliances.
- The project would include use of LED lighting or other efficient lighting for at least 75% of the total luminaires.
- The project would include low-flow or high-efficiency water fixtures (toilet, showerhead, clothes washer, etc.).

For the purposes of analysis, construction of the proposed project was estimated to begin in January 2021 and last approximately 12 months, ending in January 2022. Construction would generally follow the phasing below:

- Site preparation – 10 days (January 2021)
- Grading – 30 days (January 2021-February 2021)
- Trenching – 10 days (February 2021)
- Building construction – 200 days (February 2021–January 2022)
- Paving – 20 days (January 2022)
- Application of architectural coatings – 20 days (January 2022)

10. ENVIRONMENTAL SETTING/SURROUNDING LAND USES: The 12.53-acre project site is currently vacant. Site access is restricted to vehicular traffic by a locked gate. A portion of the site (Assessor's Parcel Numbers 212-10-08 and 212-040-26) is undeveloped. The remaining parcels have been graded for development but remain vacant. Some improvements are present on site, including underground utilities, a road and a retaining wall. West Oaks Way, the existing paved roadway, bisects the property in a northwest–southeast direction. A power line easement traverses the southeastern portion of the project site in a northwest–southeast direction. Encinas Creek, which was channelized and rerouted in 1985, runs throughout the project site and is present along the northern boundary of the site. The site consists of relatively flat areas (less than 20 percent slopes) as a result of the grading on site that gently slope to the west, with on-site elevations ranging from approximately 114 to 150 feet above mean sea level.

The surrounding area is largely characterized by a mix of development, including industrial, commercial, and residential. Palomar Airport Road is immediately north of the site, a commercial complex is located approximately 350 feet to the west, a residential housing tract is located approximately 425 feet to the south, and another commercial complex is located approximately 300 feet to the east. Natural rolling hillsides are present immediately south of the site and abut existing

residential neighborhoods. The project site is approximately 150 vertical feet below the residential homes to the south.

11. OTHER REQUIRED AGENCY APPROVALS (i.e., permits, financing approval or participation agreements): California Department of Fish and Wildlife; California Coastal Commission; SDG&E.

12. CALIFORNIA NATIVE AMERICAN TRIBES CONSULTATION.

a. Have California Native American Tribes traditionally and culturally affiliated with the project area requested consultation pursuant to public resources code section 21080.3.1?

☒ **Yes** ☐ **No**

b. If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

☒ **Yes** ☐ **No**

13. PREVIOUS ENVIRONMENTAL DOCUMENTATION: None.

14. SUMMARY OF ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The summary of environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ **Aesthetics**	☐ **Greenhouse Gas Emissions**	☐ **Public Services**
☐ **Agriculture Forestry Resources**	☐ **Hazards and Hazardous Materials**	☐ **Recreation**
☐ **Air Quality**	☐ **Hydrology and Water Quality**	☐ **Transportation**
☒ **Biological Resources**	☐ **Land Use & Planning**	☒ **Tribal Cultural Resources**
☒ **Cultural**	☐ **Mineral Resources**	☐ **Utilities/Service Systems**
☐ **Energy**	☒ **Noise**	☐ **Wildfire**
☒ **Geology/Soils**	☐ **Population & Housing**	☐ **Mandatory Findings of Significance**

15. PREPARATION: The Mitigated Negative Declaration for the subject project was prepared by:

7/1/2020

CLIFF JONES, Senior Planner Date

16. DETERMINATION: *(to be completed by Lead Agency)*
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described herein have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact(s)" on the environment, but at least one potentially significant impact 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described herein. A Negative Declaration is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, nothing further is required.

17. ENVIRONMENTAL DETERMINATION: The MND for this project has been reviewed and the environmental determination, indicated above, is hereby approved.

7/1/2020

Teri Delcamp, Principal Planner Date

18. APPLICANT CONCURRENCE WITH MITIGATION MEASURES: This is to certify that I have reviewed the mitigation measures in the MND and concur with the addition of these measures to the project.

DocuSigned by:
574F3C880BE1C4F6...

6/26/2020

Signature Date

Lance Waite

Print Name

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an environmental impact report (EIR) is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

9. Tribal consultation, if requested as provided in Public Resources Code Section 21080.3.1, must begin prior to release of a negative declaration, mitigated negative declaration, or environmental impact report for a project. Information provided through tribal consultation may inform the lead agency's assessment as to whether tribal cultural resources are present, and the significance of any potential impacts to such resources. Prior to beginning consultation, lead agencies may request information from the Native American Heritage Commission regarding its Sacred Lands File, per Public Resources Code sections 5097.9 and 5097.94, as well as the California Historical Resources Information System administered by the California Office of Historic Preservation.

I. AESTHETICS **Except as provided in Public Resources Code Section 21099, would the project:**	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experiences from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light and glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Public Resources Code (PRC) Section 21099(d)(1) states "[a]esthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impact on the environment."

PRC Section 21099 provided the additional definitions:

- Infill site: "a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses."
- Transit priority area: "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations."

Section 15191(i) of the CEQA Guidelines (see also PRC Section 21064.3) defines a major transit stop as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

Based on the information provided in PRC Section 21099 and Section 15191 of the CEQA Guidelines), the project site would not meet the definitions of an infill site within a transit priority area. Therefore, potential impacts to aesthetics are discussed below.

a) ***No Impact:*** The proposed project site is located within an already developed area of the city and is generally surrounded mostly by commercial development. The proposed project would develop a vacant site with residential uses. The city's General Plan Open Space, Conservation, and Recreation Element does

not identify any scenic resources in the vicinity of the project site (City of Carlsbad 2015a). Therefore, no impact to scenic vistas would occur.

b) ***No Impact:*** The project site is not located in the vicinity of a state scenic highway (Caltrans 2011). Additionally, the city's General Plan Open Space, Conservation, and Recreation Element does not identify any local scenic roadways (City of Carlsbad 2015a). Therefore, no impact would occur.

c) ***Less-than-Significant Impact:*** Section 15387 of the CEQA Guidelines states that an urbanized area means a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. Therefore, the project is located within an urbanized area and the second question of this threshold applies. The project site is zoned Planned Industrial (P-M) and Open Space (OS). The OS zone is intended to provide for open space and recreational uses which have been deemed necessary for the aesthetically attractive and orderly growth of the community. The portions of the site that are currently zoned and have a land use designation of OS will remain as open space under the proposed project. Therefore, the proposed project would not conflict with applicable zoning governing scenic quality and impacts would be less than significant. Additionally, for the purposes of analysis, a discussion of visual character and quality is provided below.

The developable portion of the project site is currently undeveloped and has previously been graded. A few shrubs are present throughout the site. Overall, the site lacks maintenance and visual quality. The project would enhance the visual quality of the project site by introducing an aesthetically cohesive development with associated landscaping. The proposed project consists of structures with stucco exteriors of white, beige, and gray colors.. Brick and bronze accents enhance the project design (see Figures 4a–4f and 5a–5b). The project involves three-story residential lofts with a maximum height of 35 feet. The project is designed to implement visual cohesiveness on the site. Associated landscaping on 23 percent of the site adds to the visual quality of the development. Further, the conservation easement located between Palomar Airport Road and the proposed structures provides a setback for the structures from the road of approximately 60 to 90 feet (refer to Figure 3, Proposed Site Plan). This setback aims to reduce the bulk and scale of the proposed buildings as seen by motorists from Palomar Airport Road. Refer to Figure 7, Project Visual Simulation Renderings, for a conceptual rendering of the proposed project as viewed from Palomar Airport Road. As shown on Figure 7, the relative lower elevation and setback of the site from the road reduces the overall bulk and scale of the proposed project.

The surrounding commercial and industrial structures present to the north and east of the site are mostly three-story, rectangular structures finished with glass materials or light-color exterior paint. The commercial structure directly to the north of the site is a three-story airport center that is rectangular in shape and consists of glass exteriors. The structures to the east of the site are also approximately three stories in height and rectangular in shape. These structures consist of light tan exterior colors and brick accents. Further to the east, there is a three-story medical office building with glass exteriors and a large surface parking lot. A golf course exists to the northeast of the site. The city's General Plan Land Use and Community Planning Element seeks to ensure that the city's small-town feel will be maintained through the scale of development, and promotes planning practices that foster greater connections between neighborhoods and uses (City of Carlsbad 2015a). The General Plan describes the surrounding land uses as urban clusters, such as the airport and the adjacent employment core at the geographic center of the community, surrounded by residential neighborhoods, shopping centers, hotels, and other uses. The project would be consistent with the overall city image, form, and structure outlined by the General Plan (City of Carlsbad 2015a). As such, impacts would be less than significant.

d) ***Less-than-Significant Impact:*** As shown on Figures 4a–4f, the project does not include large expanses of glass or other highly reflective materials. Outdoor lighting will be used as required by California Building Standards Code for parking areas, sidewalks, and security within the project site. Outdoor lighting is required to comply with Section 21.31.080(F) of the city's Municipal Code, which requires that light sources are designed to avoid direct or indirect glare to any off-site properties or public rights-of-way. Through compliance with the Municipal Code and California Building Standards Code, proposed outdoor lighting would not substantially affect day or nighttime views. Impacts would be less than significant.

II. AGRICULTURAL AND FOREST RESOURCES* **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), or timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

* In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model 1997 prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

a) ***No Impact:*** As indicated on the map of San Diego County Important Farmland developed by the California Department of Conservation for the Farmland Mapping and Monitoring Program, the project site is located on and surrounded by "Urban Built-Up Land" and "Other Land" (CDC 2016). Urban and Built-Up Land generally includes land uses such as residential, commercial, industrial, institutional facilities, and other urban land uses. Other Land generally includes land uses such as low-density rural developments, wetlands, and riparian areas not suitable for livestock grazing. Land surrounded on all sides by urban development and greater than 40 acres is mapped as other land. As such, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, and no impact would occur.

b) ***No Impact:*** According to the Department of Conservation's map of San Diego County Williamson Act lands, the project site is not located on Williamson Act contract land (CDC 2013). The project site is zoned Planned Industrial (P-M) and Open Space (OS) (City of Carlsbad 2017a). Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

c) ***No Impact:*** The project site and its immediate surroundings are within the Planned Industrial (P-M) and Open Space (OS) zones and located within a largely developed area in the city. The project site is not currently designated or used for forestry resources. Therefore, the proposed project would not conflict with existing zoning for forest land or timberland, and no impact would occur.

d) ***No Impact:*** The project site and its immediate surroundings are within the Planned Industrial (P-M) and Open Space (OS) zones and located within a largely developed area in the city. The project site is not currently designated or used for forestry resources. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.

e) ***No Impact:*** The project site and its immediate surroundings are within the Planned Industrial (P-M) and Open Space (OS) zones and located within a largely developed area in the city. The proposed project would not result in the conversion of agricultural or forest land. None of the surrounding lands in the vicinity of the project site are used for agriculture or are forest lands. Therefore, the proposed project would not result in the direct or indirect conversion of agricultural uses or forest land, and no impact would occur.

III. AIR QUALITY* **Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

This section is based upon the Air Quality Report prepared for the project by Dudek in June 2020 (Dudek 2020a), which includes background and methodologies regarding the air quality analysis. These technical memoranda and reports are hereby incorporated by reference.

Local Air Quality: An area is designated in attainment when it is in compliance with the National Ambient Air Quality Standards (NAAQS) (federal) and/or California Ambient Air Quality Standards (CAAQS) (state). These standards are set by the U.S. Environmental Protection Agency or the California Air Resources Board

for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of primary concern that are considered in an air quality assessment include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM_{10}, and $PM_{2.5}$), lead, and toxic air contaminants (TACs). Volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) are precursors to the formation of ground-level O_3. Table 1 shows the San Diego Air Basin (SDAB) designations for criteria pollutants.

Table 1

San Diego Air Basin Attainment Designation

Pollutant	Federal Designation[a]	State Designation[b]
O_3 (1-hour)	Attainment (maintenance)[a]	**Nonattainment**
O_3 (8-hour – 1997) (8-hour – 2008)	Attainment (maintenance) **Nonattainment (moderate)**	**Nonattainment**
CO	Unclassifiable/attainment[b]	Attainment
PM_{10}	Unclassifiable/attainment	**Nonattainment**
$PM_{2.5}$	Unclassifiable/attainment	**Nonattainment**
NO_2	Unclassifiable/attainment	Attainment
SO_2	Not designated[c]	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen sulfide	(No federal standard)	Unclassified
Visibility-reducing particles	(No federal standard)	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: [a]EPA 2017b; [b]CARB 2016.

Definitions: CO = carbon monoxide; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide

attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

a The federal 1-hour standard of 0.12 parts per million (ppm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in state implementation plans.

b The western and central portions of the SDAB are designated attainment, while the eastern portion is designated unclassifiable/attainment.

c Federal designations for SO_2 are on hold by the U.S. Environmental Protection Agency (EPA 2016).

In San Diego County, O_3 and particulate matter are the pollutants of main concern since exceedances of CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. The SDAB is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, O_3 nonattainment area for the 2008 8-hour O_3 standard, and CO maintenance area (western and central parts of the SDAB only). The project site is in the CO maintenance area (western and central parts of the SDAB only).

a) ***Less-than-Significant Impact:*** The project site is located in the SDAB. The periodic violations of NAAQS in the SDAB, particularly for O_3 in inland foothill areas, require that a plan outlining the pollution controls that will be undertaken to improve air quality be developed. In San Diego County, this attainment planning process is embodied in the Regional Air Quality Strategies (RAQS) developed by the San Diego Air Pollution Control District (SDAPCD) with regional growth projections provided by San Diego Association of

Governments (SANDAG). The RAQS outlines the SDAPCD's plans and regulatory control measures designed to attain state air quality standards for O_3. The RAQS, which was adopted by the San Diego County Air Pollution Control Board in 1992, is updated on a triennial basis, with the most recent revision prepared in December 2016 (SDAPCD 2016).

The SDAPCD has also developed the SDAB's input into the State Implementation Plan (SIP), which is required under the federal Clean Air Act (CAA) for pollutants that are designated as being in nonattainment of national air quality standards for the air basin. The SIP relies on the same information from SANDAG to develop emission inventories and emission-control strategies that are included in the attainment plan for the air basin.

The proposed project relates to the SIP and/or RAQS through the land use and growth assumptions that are incorporated into the SIP and/or RAQS. These growth assumptions are based on the city's and the San Diego County's General Plans. The project is inconsistent with the existing zoning and General Plan land use designations for the project site. The developable portion of the project site is zoned Planned Industrial (P-M), which includes light industrial, manufacturing, corporate business and office uses not catering directly to the public. The project involves General Plan land use and zoning changes with the development of 192 multifamily residential units. This would be within the SANDAG's growth projection for housing for that year for the city. The most recent Regional Housing Needs Assessment from SANDAG stated that Carlsbad needs to build 430 units per year from 2021 through 2029 (SANDAG 2019). Furthermore, the City projected a deficit of 1,062 very-low and low income units and 238 moderate and above moderate income units (City of Carlsbad 2019). Operation of the project would result in emissions that were considered as a part of the RAQS growth projections. As such, the proposed project is not anticipated to conflict with the RAQS or the SIP. Additionally, the operational emissions from the project are estimated to be below the screening levels, and subsequently, would not violate ambient air quality standards. The project is in compliance with the implementation of the RAQS and SIP because the proposed land uses and associated vehicle trips are anticipated in these plans (Dudek 2020a). Thus, impacts would be less than significant.

b) ***Less-than-Significant Impact:*** The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. Due to its proximity to the city with similar geographic and climatic characteristics, the Camp Pendleton monitoring station concentrations for O_3, NO_2, and $PM_{2.5}$ are considered most representative of the emissions in the city. The Escondido–East Valley Parkway monitoring station is the nearest location where CO concentrations are monitored. The El Cajon–Redwood Avenue monitoring station is the nearest location where SO_2 concentrations are monitored. The San Diego-Kearny Villa Road monitoring station was the closest station monitoring PM_{10} to the city. Data available for these monitoring sites from 2015 through 2017 indicate the most recent air quality violations recorded and are shown in Table 2.

Table 2

Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2016	*2017*	*2018*	*2016*	*2017*	*2018*
Ozone (O_3)										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.09	0.083	0.094	0.084	0	0	0
	ppm	Maximum 8-hour concentration	State	0.070	0.073	0.082	0.069	5	5	0
			Federal	0.070	0.073	0.081	0.068	4	4	0
Nitrogen Dioxide (NO_2)										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.18	0.072	0.063	0.048	0	0	0
			Federal	0.100	0.072	0.063	0.048	0	0	0
	ppm	Annual concentration	State	0.030	0.006	0.006	0.006	0	0	0
			Federal	0.053	0.006	0.006	0.006	0	0	0
Carbon Monoxide (CO)										
Escondido[a]	ppm	Maximum 1-hour concentration	State	20	3.1	2.0	1.9	0	0	0
			Federal	35	3.1	2.0	1.9	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	2.0	1.5	1.4	0	0	0
			Federal	9	2.0	1.5	1.4	0	0	0
Sulfur Dioxide (SO_2)										
El Cajon	ppm	Maximum 1-hour concentration	Federal	0.075	0.018	0.011	0.004	0	0	0
	ppm	Maximum 24-hour concentration	State	0.04	0.0005	0.0004	0.0004	0	0	0
			Federal	0.140	0.0005	0.0004	0.0004	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0001	0.0001	0.0001	—	—	—

Table 2

Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2016	*2017*	*2018*	*2016*	*2017*	*2018*
Coarse Particulate Matter (PM_{10})										
San Diego-Kearny Villa Road	µg/m³	Maximum 24-hour concentration	State	50	35	47	38	0 (0)	0 (0)	0 (0)
			Federal	150	36	46	38	0 (0)	0 (0)	0 (0)
	µg/m³	Annual concentration	State	20	ND	17.6	18.4	—	—	—
Fine Particulate Matter ($PM_{2.5}$)										
Camp Pendleton	µg/m³	Maximum 24-hour concentration	Federal	35	34.4	26.0	30.5	0 (0)	0 (0)	0 (0)
	µg/m³	Annual concentration	State	12	9.7	—	—	—	—	—
			Federal	12.0	9.7	—	—	—	—	—

Sources: CARB 2019; EPA 2019.

Notes: – = not available or applicable; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value; ppm = parts per million

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year. Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

The Camp Pendleton Facility monitoring station is located at 21441-W B Street Oceanside, California.

The Escondido monitoring station is located at 600 E. Valley Pkwy, Escondido, California.

The El Cajon monitoring station is located at 10537 Floyd Smith Drive, El Cajon, California.

The San Diego-Kearny Villa station is located at 6123A Kearny Villa Road, San Diego, California.

The San Diego – Rancho Carmel Drive monitoring station is located at 11403 Rancho Carmel Drive, San Diego, California.

The 2016 and 2017 monitoring values are from the Escondido monitoring station and the 2018 monitoring values are from the Rancho Carmel Drive monitoring station.

Measurements of PM_{10} and $PM_{2.5}$ are usually collected every six days and every one to three days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

Air quality within the region was in compliance with CAAQS and NAAQS for NO_2, CO, and SO_2 during the monitoring period outlined in Table 2 (2016-2018).

Grading and Construction

The project involves the construction of 192 multifamily residential units, which includes emissions associated with grading and construction. As described in the project's Air Quality Report (Dudek 2020a), emissions from the construction phase of the project components were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2,[1] available online (www.caleemod.com). For the purposes of modeling, it was assumed that construction of project components would commence in January 2021 and last approximately 12 months. The project is assumed to be constructed with low-VOC coatings, which would be five grams per liter for interior applications and 50 grams per liter for exterior applications. It was assumed that the parking lot would comply with SDAPCD Rule 67.0.1 for architectural coatings and would have a coating not exceeding 100 grams per liter. The construction schedule has been developed based on available information provided by the applicant, typical construction practices, and best engineering judgment. The project's Air Quality Report contains specific air quality modeling assumptions (Dudek 2020a).

Construction of project components would be subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that construction of project components includes steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009). Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. Construction of project components would also be subject to SDAPCD Rule 67.0.1, Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015).

Unmitigated estimated maximum daily construction criteria air pollutant emissions are represented in Table 3 and show the estimated maximum unmitigated daily construction emissions associated with the conceptual construction phases of the project. Complete details of the emissions calculations are provided in Appendix A of the Air Quality Report (Dudek 2020a).

Table 3

Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2021	28.23	50.05	55.14	0.11	10.32	6.39
SDAPCD Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District; SO_x = sulfur oxides; VOC = volatile organic compound.

[1] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including the SDAPCD, use CalEEMod to estimate greenhouse gas (GHG) emissions in accordance with CEQA Guidelines, Section 15064.4(a)(1).

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 3, daily construction emissions for the project would not exceed SDAPCD's significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. As such, the project would result in a less-than-significant impact related to construction emissions.

Further, emissions would be minimized through standard construction measures, stormwater pollution prevention plan requirements, best management practices (BMPs), and when applicable, the California Green Building Standards Code, as required by the city, that would reduce fugitive dust debris, emissions, and other criteria pollutant emissions during grading and construction. Therefore emissions from the construction phase would be minimal, temporary, and localized, resulting in pollutant emissions that are not anticipated to significantly contribute to an existing or projected air quality violation.

Operations

Area

CalEEMod was also used to estimate emissions from the project's area sources, which include consumer product use, architectural coatings, and landscape maintenance equipment. The project was designed to include natural gas fireplaces only; therefore, there will be no wood-burning units installed. There are also no woodstoves included in the project design. CalEEMod defaults were used for operational hours and number of days per year.

Energy

In addition to area sources, CalEEMod was also used to estimate emissions from the project's energy use, which includes emissions associated with building electricity and natural gas usage (non-hearth). In accordance with Carlsbad City Council Ordinance No. CS-348, the project would use electric-based water heating. Therefore, the energy use associated with water heating was applied to the electric load for the project. Natural gas would only be used for cooking onsite. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases (GHGs) in CalEEMod since criteria pollutant emissions occur at the site of the power plant, which is typically off site. CalEEMod default values for energy consumption for each land use were applied for the project analysis.

The proposed project would be designed to include a solar photovoltaic (PV) rooftop system. The project will include use of light-emitting diode (LED) lighting or other efficient lighting for at least 75 percent of the total luminaires. The project would also include a solar water-heating system on site to heat the swimming pool.

Mobile Sources (Motor Vehicles)

Based on the project's traffic impact analysis, vehicle trip emissions associated with travel to and from the project would result in 1,152 average daily trips (ADTs) (refer to Section XVI, Transportation/Traffic; LLG 2020).

CalEEMod was used to estimate daily emissions from proposed vehicular sources. CalEEMod, Version 2016.3.2, default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs. Project-related traffic was

assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Refer to the project's Air Quality Report for specific vehicular traffic modelling assumptions (Dudek 2020a).

Vehicle trip emissions associated with the project are minimal and not anticipated to significantly contribute to an existing or projected air quality violation.

Maximum daily emissions associated with the operation of the project after all phases of construction have been completed are in Table 4. Refer to the project's Air Quality Report for complete details of the emissions calculations (Dudek 2020a).

Table 4

Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	4.87	0.18	15.90	0.00	0.09	0.09
Energy	0.01	0.08	0.03	0.00	0.01	0.01
Mobile	1.67	6.67	17.15	0.06	4.99	1.37
Total	**6.55**	**6.93**	**33.08**	**0.06**	**5.09**	**1.47**
SDAPCD Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District; SO_x = sulfur oxides; VOC = volatile organic compound
The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown above, the maximum daily operational emissions would not exceed the SDAPCD's thresholds for VOC, CO, NO_x, SO_x, PM_{10}, or $PM_{2.5}$ during the operation of the project.

Annual operations emissions estimated for the project are shown in Table 5.

Table 5

Estimated Annual Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
Area	0.84	0.02	1.43	0.00	0.01	0.01
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	0.29	1.22	3.07	0.01	0.89	0.24
Total	**1.13**	**1.25**	**4.51**	**0.01**	**0.90**	**0.25**
SDAPCD Threshold	*13.7*	*40*	*100*	*40*	*15*	*10*
Threshold Exceeded?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District; SO_x = sulfur oxides; VOC = volatile organic compound

As shown above, the annual operations emissions for the project do not exceed the SDAPCD's significance thresholds for VOC, CO, NO_x, SO_x, PM_{10}, or $PM_{2.5}$. Because the project would not exceed the daily or annual

SDAPCD significance thresholds, the project would have a less-than-significant impact on an air quality standard violation.

In analyzing cumulative impacts from the project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project components, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if its contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

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

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions associated with construction generally result in near-field impacts. As discussed previously, the emissions of all criteria pollutants would be below the significance levels. Construction would be short term and temporary in nature. Additionally, construction activities required for the implementation of project components would be considered typical of a residential project and would not require atypical construction practices that would include high-emitting activities. Grading and construction operations associated with the project would minimize emissions through standard construction measures, stormwater pollution prevention plan measures and BMPs, and the California Green Building Code, as noted in response (b)). Once construction is completed, construction-related emissions would cease. Operational emissions generated by the project would not result in a significant impact. As such, the project would result in less-than-significant impacts to air quality relative to operational emissions.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the San Diego County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As discussed in response (a), the project is consistent with the existing zoning and land use designations and is within the SANDAG growth projections. Thus, it would be consistent at a regional level with the underlying growth forecasts in the SIP and RAQS.

As a result, the project would not result in a cumulatively considerable contribution to regional O_3 concentrations or other criteria pollutant emissions. Cumulative air quality impacts for construction and operation would be less than significant for the project.

c) ***No Impact:*** Sensitive receptors include schools, hospitals, playgrounds, childcare centers, athletic facilities, long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, or other facilities that house individuals with health conditions that would be adversely impacted by changes in air quality. For purposes of this analysis, residents are also considered sensitive receptors. The closest sensitive receptor to the proposed project is the residences located approximately 410 feet southwest of the site. Receptors also include future tenants of the proposed project.

Carbon Monoxide Hotspots

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the proposed project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The Local Mobility Analysis performed for the project evaluated the level of service (LOS) impacts at intersections affected by the project (LLG 2020). The potential for CO hotspots was evaluated based on the results of the traffic report. The project would not exceed the County's screening criteria for performing a quantitative CO hotspots analysis. Therefore, impacts would be less than significant.

Health Effects of Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. The closest sensitive receptors would be any receptor located directly adjacent to the proposed alignments and associated facilities.

Construction of project components would not require the extensive use of heavy-duty construction equipment, which is subject to a California Air Resources Board Airborne Toxics Control Measure for in-use diesel construction equipment to reduce diesel particulate emissions, and would not involve extensive use of diesel trucks, which are also subject to an Airborne Toxics Control Measure. Construction of the project would occur over a period of 12 months and would be periodic and short term within each phase. Following completion of construction activities, project-related TAC emissions would cease. Additionally, there is no diesel-powered equipment that would operate during project operation.

Health Effects of Criteria Air Pollutants

Construction and operation of the project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. The SDAPCD thresholds are based on the SDAB complying with the NAAQS and CAAQS which are protective of public health; therefore, no adverse effects to human health would result from the project. The following provides a general discussion of criteria air pollutants and their health effects. The VOC and NO_x emissions would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in response (b), the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected that the project's operational NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less-than-significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant. PM_{10} and $PM_{2.5}$ would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, obstruct the SDAB

from coming into attainment for these pollutants, or contribute to significant health effects associated with particulates. Therefore, health impacts associated with criteria air pollutants would be considered less than significant.

d) Less-than-Significant Impact: The proposed project could generate objectionable odors from construction, vehicles and/or equipment exhaust from construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary, and for the types of construction activities anticipated for project components, would generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. In addition to the odor source, the distance between the sensitive receptor) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. The project would include a residential development with a pool and recreational room, which is not expected to produce any nuisance odors or other such emissions; therefore, impacts related to odor caused by the project would be less than significant.

IV. BIOLOGICAL RESOURCES **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian, aquatic or wetland habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

IV. BIOLOGICAL RESOURCES **Would the project:**	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

a) ***Less than Significant with Mitigation Incorporated:*** A Biological Technical Report (BTR) was prepared by Dudek in August 2019 that documents the biological surveys of existing conditions, impact analysis, and jurisdictional wetland delineation performed by Dudek. The following section is based on the findings within the BTR (Dudek 2019). Technical memoranda and reports are hereby incorporated by reference.

The proposed project would include open space in the northern and western areas and adjacent to the preserve to the south. Therefore, edge effects generally could occur along the development-preservation interface to the north, south, and west. The preserve edge is provided protection by walls and fencing. All landscaping adjacent to the preserve is proposed to be native. There will be no lighting within the preserve. Fuel modification is designed to be within the proposed impact area.

Special-Status Plants

Direct Impacts

Special-status plant species were not detected during surveys. No impacts would occur to the coastal sage scrub within the San Diego Gas & Electric easement, and no impacts to special-status plants would occur.

Indirect Impacts

Most of the indirect impacts to vegetation communities described in the BTR can also affect special-status plants. It should be noted that no special-status plants were detected on site, and none are anticipated; however, if there are plants that occur off site within adjacent areas, standard measures addressed in the Carlsbad HMP provide protection. During construction of the proposed project, indirect effects may include dust that could disrupt plant vitality in the short term and/or construction-related soil erosion and drainage runoff. However, it is assumed that typical construction practices, including dust and erosion control and water quality BMPs, will be implemented and will reduce these effects. Implementation of the adjacency standards addressed in the Carlsbad HMP as discussed in response (f) are expected to reduce indirect impacts to special-status plants to a level below significant.

Special-Status Wildlife

Direct Impacts

The project site contains two special-status wildlife species that were observed during surveys: Blainville's horned lizard (*Phrynosoma blainvillii*) and Cooper's hawk (*Accipiter cooperii*). If initial habitat clearing occurs during the breeding season for avian species, reproduction for species within this area may significantly impact those populations. Even if clearing activities occur outside the breeding season, the

carrying capacity of the regionally available suitable habitat will have been reduced and may significantly adversely impact special-status species populations. Impacts to special-status wildlife are potentially significant. However, Mitigation Measure BIO-1 would reduce potential direct impacts on special-status wildlife to less-than-significant levels.

Indirect Impacts

There is potential for indirect impacts due to noise during the breeding season since it may affect nesting birds, and due to lighting adjacent to the open space following occupancy of the development.

Indirect impacts include potential disruption of breeding birds, including potentially occurring special-status species and other wildlife species that may use the riparian habitat for nesting. Indirect impacts from construction-related noise may occur to special-status wildlife if construction occurs during the breeding season (February 15 through August 31 for most species and January 1 through August 31 for raptors). During the breeding season, there is high potential for the special-status coastal California gnatcatcher (*Polioptila californica californica*) to nest in the slope to the south of the site and for the yellow warbler (*Setophaga petechia*) to nest within the riparian habitat adjacent to the proposed development. Additionally, there is moderate potential for special-status raptors (i.e., Cooper's hawk and loggerhead shrike (*Lanius ludovicianus*)) to nest within the eucalyptus and oak trees adjacent to the proposed development. With implementation of Mitigation Measures BIO-2 and BIO-3 to protect from indirect impacts on nesting birds, impacts would be less than significant.
Most of the indirect impacts to vegetation communities can also affect special-status wildlife in on-site open space or off-site preserve areas. Also, adverse indirect impacts to vegetation communities, such as trampling of vegetation, can cause degradation of habitat quality. Implementation of the adjacency standards addressed in the Carlsbad HMP as discussed in response (f), and well as wildlife construction measures included in Mitigation Measure BIO-4, are expected to reduce indirect impacts to special-status wildlife to a level below significant.

Long-term adverse impacts to wildlife, such as predation by urban pest species (e.g., American crows (*Corvus brachyrhynchos*), raccoons (*Procyon lotor*), and striped skunks (*Mephitis mephitis*)), lighting and noise, and human presence, would likely occur despite the design of a consolidated preserve.

Mitigation Measures

BIO-1 Clearing and grubbing activities are prohibited on site during the bird-breeding season (February 15–September 15). The U.S. Fish and Wildlife Service (USFWS) will be notified at least seven days before clearing and grubbing begins. During this activity, a qualified biologist will walk the area ahead of construction equipment to flush birds away from impact areas to prevent direct impact to individual animals. The qualified biologist will immediately report to USFWS the number and location of any federally listed birds disturbed by clearing and grubbing.

BIO-2 A number of oak trees were originally preserved on site within the original approval of the project. These trees are currently declining in condition or are dead. As such, to mitigate for the loss of these trees, oak trees are included in the landscape plans for the riparian buffer area. Trees will be provided at a 1:1 ratio.

BIO-3 Clearing and grubbing activities are generally prohibited during the bird-breeding season (February 15–September 15); thus, no direct impacts will occur to nesting birds that may be present within the construction footprint per Mitigation Measure BIO-3. The U.S. Fish and Wildlife Service (USFWS) will be notified at least seven days before clearing and grubbing begins.

Other construction activities will also be avoided during the breeding season if feasible. If this cannot be avoided, the following measures will be taken:

- If coastal California gnatcatchers (*Polioptila californica californica*) have the potential to occur on site, a qualified biologist will conduct a focused species gnatcatcher survey in appropriate habitat within the preserve areas and 500 feet surrounding the project site within suitable habitat. The surveys will consist of three visits one week apart; the last of these will be conducted no more than three days prior to construction.
- Surveys will be conducted by a qualified biologist in appropriate habitat for nesting raptors and migratory birds (including but not limited to the least Bell's vireo (*Vireo bellii pusillus*)) and within a 500-foot survey buffer within three days of construction.
- The USFWS will be notified immediately of any federally listed species that are located during pre-construction surveys within the adjacent areas.
- If nests of listed birds, migratory birds, raptors, or other special-status species are located, they will be fenced with a protective buffer of at least 500 feet from active nests of listed species and 300 feet from other special-status bird species. All construction activity will be prohibited within this area.
- During the breeding season, construction noise will be measured regularly to maintain a threshold at or below 60 A-weighted decibels (dBA) hourly equivalent level (L_{eq}) within 500 feet of breeding habitat occupied by listed species. The site is currently affected by roadway noise. If ambient levels are greater than 60 dBA, a modified threshold should be evaluated with the City of Carlsbad. If noise levels supersede the threshold, the construction array will be changed or noise attenuation measures will be implemented.

BIO-4 **Wildlife Construction Measures**

a) Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. Construction adjacent to drainages shall occur during periods of minimum flow (i.e., summer through the first significant rain of fall) to avoid excessive sedimentation and erosion and to avoid impacts to drainage-dependent species. Construction near riparian areas or other sensitive habitats shall also be scheduled to avoid the breeding season (January 1 through September 15) and potential impacts to breeding bird species (refer to Mitigation Measure BIO-3).

b) Lighting in or adjacent to the preserve shall not be used, except where essential for roadway, facility use, and safety. If nighttime construction lights are necessary, all lighting adjacent to natural habitat shall be shielded and/or directed away from habitat.

c) If dead or injured listed species are located, initial notification must be made within three working days, in writing, to the USFWS Division of Law Enforcement in Torrance, California, and by telephone and in writing to the applicable jurisdiction, Carlsbad Field Office of the USFWS, and CDFW.

d) Exotic species that prey on or displace target species of concern shall be permanently removed from the site.
e) To avoid attracting predators of the target species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site. Pets of project personnel shall not be allowed on site where they may come into contact with any listed species.

b) ***Less than Significant With Mitigation Incorporated:***

Vegetation Communities

Direct Impacts

Impacts to special-status vegetation communities identified in Table 7 are considered significant. These impacts include permanent impacts to 0.08 acres of southern willow scrub, 0.01 acres of open water, and 0.02 acres of coastal sage scrub-coyotebrush scrub. The impacts that potentially result from shading from the construction of the bridge are included in these acreage numbers. Refer to Figure 8, Biological Resources Impact Map, for locations of vegetation communities and the location of the bridge impact.

Given the presence of special-status biological resources adjacent to and within the project site that will be preserved as part of the project or other projects, indirect impacts to vegetation communities are potentially significant in both the short and long terms. Therefore, mitigation is required for the impact to coastal sage scrub, open water, and southern willow scrub (see Mitigation Measure BIO-5).

Table 7

Existing Acreage and Proposed Impacts to Vegetation Communities/Land Covers on the Project Site (Acres)

Vegetation Community/ Land Cover	Existing	Impact from Grading for Development and Emergency Access Road, Including Bridge and Setback (Outside of Carlsbad HMP Preserve)[a]	Carlsbad HMP Preserve Open Space Area (Restrictive Covenant area)	HOA Preserve Area for Upland Buffer (Does Not Include Existing Paved Areas)
Group A				
Southern willow scrub	1.20	0.08	1.12	—
Open water	0.16	0.01	0.15	—
Open water/concrete-channel	0.04	—	0.04	—
Group C				
Coastal sage scrub	1.40	—	1.40	—
Coastal sage scrub–coyotebrush dominated	0.11	0.02	0.09	—
Group F				
Disturbed land	8.22	6.41	1.20	0.61
Other Lands				
Developed	1.31	1.29	0.02	—

Table 7

Existing Acreage and Proposed Impacts to Vegetation Communities/Land Covers on the Project Site (Acres)

Vegetation Community/ Land Cover	Existing	Impact from Grading for Development and Emergency Access Road, Including Bridge and Setback (Outside of Carlsbad HMP Preserve)[a]	Carlsbad HMP Preserve Open Space Area (Restrictive Covenant area)	HOA Preserve Area for Upland Buffer (Does Not Include Existing Paved Areas)
Developed/concrete-channel	0.09	—	0.09	—
Total	**12.53**	**7.81**	**4.11**	**0.61**

Note: HMP = habitat management plan; HOA = homeowners' association

[a] Also includes 0.10 acres that is within the area approved for development but that is not graded.

Indirect Impacts

Potentially significant indirect impacts include dust, erosion, sedimentation, trash dumping, introduction of exotics plant and animal species, changes in fire regime, and hydrologic changes and indirect impacts to nesting birds. Indirect impacts to vegetation communities would primarily result from adverse edge effects. During construction of the proposed project, edge effects may include dust, which could disrupt plant vitality in the short term, and/or construction-related soil erosion and runoff. However, typical construction practices, including dust control, erosion control, and water quality protection measures, would be implemented to reduce these effects.

Potential long-term indirect impacts on vegetation could include trampling by humans traveling off trail, invasion by exotic plants and animals, exposure to urban pollutants (fertilizers, pesticides, herbicides, and other hazardous materials), increase or decrease in natural fire regime, soil erosion, and hydrologic changes (e.g., surface- and groundwater level and quality). Although the project is designed to minimize preserve edge effects, long-term indirect impacts could occur. However, the proposed open space would include all native riparian vegetation and revegetated buffer, as well as the coastal sage scrub. As such, long-term indirect impacts to vegetation communities are anticipated to be reduced throughout the site. Except for the area needed for emergency access, vegetation will be preserved.

The proposed open space and existing Carlsbad HMP preserve on site will be protected by a conservation easement, funding, and a land manager, and the on-site open space would be protected by fencing. For the existing Carlsbad HMP preserve off site to the south, indirect impacts are proposed to be prevented by adherence to the adjacency standards and the fencing and walls that exist or are proposed. Finally, vegetation within the open space riparian buffer will be protected by the planting of native plant species. Indirect impacts to vegetation shall be reduced to levels below significance with incorporation of Mitigation Measures BIO-6 and BIO-7).

<u>Riparian Habitat</u>

There is riparian habitat along the northern portion of the site within the Encinas Creek drainage and within the western parcel that will be included in the Carlsbad HMP preserve. The Carlsbad HMP includes adjacency standards and buffers to avoid and minimize impacts to sensitive vegetation communities in conservation areas or jurisdictional resources that are adjacent to developed areas. Adjacency standards addressed in the Carlsbad HMP include fire management, erosion control,

landscaping restrictions, fencing, signs and lighting, and predator and exotic species control. Implementation of these adjacency standards are expected to reduce indirect impacts to vegetation communities to a level below significant (Dudek 2019).

Impacts from fuel modification are located within the development footprint; no impacts to the riparian buffer, upland buffer, or native habitat will occur from fuel modification. No impacts will occur to the riparian buffer or to native habitat except for the required emergency access at the western end (0.03 acres) or to the very narrow sliver (0.01 acres) of riparian buffer, which is replaced by other buffer areas within the same area. One other riparian buffer area in the more eastern portion of the site is currently located within the existing road, but no impacts are proposed from the current project, and the proposed walls and fencing would provide the function of the riparian buffer as protection of the riparian habitat. The riparian buffer is planned to be restored to native habitat per a conceptual wetland restoration plan. The Preliminary Drainage Study for the project indicates that, in the proposed project condition, the flow patterns will largely stay the same (Fuscoe Engineering 2019). The three north–south storm drain systems on site will be reused. Biofiltration with partial retention will be used to treat runoff before it enters the storm drain system. Runoff within the pads will be conveyed to the proposed drainage systems through surface flow; therefore, separate "clean" and "dirty" systems will not be necessary. No detention or retention basins are proposed to be constructed within the riparian buffer. Therefore, impacts to riparian, aquatic, or wetland habitat or other sensitive natural communities will be less than significant with incorporation of Mitigation Measure BIO-5.

Mitigation Measures

BIO-5 Habitat restoration (i.e., creation and substantial restoration) totaling 0.24 acres of jurisdictional southern willow scrub, 0.03 acres of open water, and 0.04 acres of coastal sage scrub designed through preparation of a conceptual habitat restoration plan shall be reviewed and approved by the city Planner in consultation with the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the California Coastal Commission (CCC). Based on a current evaluation, restoration is estimated to include 1.35 acres of disturbed habitat.

The applicant shall submit a final habitat restoration plan and specifications to the City of Carlsbad and agencies for review at least 30 days prior to initiating project impacts. The habitat restoration plan shall be prepared and implemented consistent with the Multiple Habitat Conservation Program, Volume II, Appendix C (Revegetation Guidelines), and Volume III; *Habitat Management Plan for Natural Communities in the City of Carlsbad* (City of Carlsbad 2004, pp. F-8 to F-11); and Open Space Management Plan, Section 3.1.5. The habitat restoration plan shall be reviewed and approved by the city Planner in consultation with the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC). At a minimum, the habitat restoration plan should include an evaluation of restoration suitability specific to proposed habitat types, soil and plant material salvage/translocation information, planting and seeding lists, a discussion of irrigation, a maintenance and monitoring program, and success criteria. All areas should be monitored for five years to ensure establishment of intended plant communities.

An approved habitat restoration specialist shall be designated and determine the most appropriate method of restoration. Restoration techniques, as specified in the habitat restoration plan, may include hydroseeding, hand-seeding, imprinting, and soil and plant

salvaging. The habitat restoration plan shall also include criteria to measure success and describe how monitoring of revegetation efforts shall be implemented. At the completion of project construction, all construction materials shall be removed from the site. Additionally, if deemed necessary, any topsoil located in areas to be restored shall be conserved and stockpiled during the excavation process for use in the restoration process.

BIO-6 **Construction Plans Requirements** The potential for significant indirect impacts during construction shall be mitigated through implementation of the standard measures stated in the city's Biology Guidelines.

a) A qualified biologist shall conduct a training session for project personnel prior to proposed activities. At a minimum, the training shall include a description of the target species of concern and its habitats; the general provisions of the federal and state Endangered Species Acts and the Habitat Management Plan (HMP); the need to adhere to the provisions of the act and the HMP; the penalties associated with violating the provisions of the act; and the general measures that are being implemented to conserve the target species of concern as they relate to the project, access routes, and project site boundaries within which the project activities must be accomplished.
b) The footprint of disturbance shall be specified in the construction plans. Construction limits would be delineated with orange fencing, and in areas potentially subject to project-related runoff, silt fencing would be used to delineate the impact footprint. All fencing would be maintained until the completion of all construction activities, at which time all fencing would be removed. All construction personnel and associates shall be instructed that their activities, vehicles, equipment, and construction materials are restricted to the proposed project footprint, designated staging areas, and routes of travel. If any impacts shall occur beyond the approved impact footprint, all work in the immediate vicinity shall cease until the disturbance limit breach has been addressed to the satisfaction of the City of Carlsbad and resource agencies.
c) The upstream and downstream limits of project disturbance (i.e., the location of the bridge crossing) plus limits of disturbance on either side of the riparian vegetation on site shall be clearly defined, marked in the field, and reviewed by the project biologist prior to initiation of work. The project should be designed to avoid the placement of equipment within the riparian vegetation or on adjacent upland habitats used by target species of concern, unless otherwise part of the mitigation plan.
d) A water pollution and erosion control plan shall be developed that describes sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and other factors deemed necessary by reviewing agencies. Erosion control measures shall be monitored on a regularly scheduled basis, particularly during times of heavy rainfall. Corrective measures will be implemented in the event erosion control strategies are inadequate. Sediment/erosion control measures will be continued at the project site until such time as the revegetation efforts are successful at soil stabilization.
e) The qualified project biologist shall review grading plans (e.g., all access routes and staging areas) and monitor construction activities throughout the duration of grading/ground disturbance associated with the project to ensure that all practicable measures are being employed to avoid incidental disturbance of habitat and any target species of concern outside the project footprint.

f) Construction monitoring reports shall be completed and provided to the city summarizing how the project is in compliance with applicable conditions. The project biologist should be empowered to halt work activity if necessary and to confer with City staff to ensure the proper implementation of species and habitat protection measures.
g) Any habitat that is impacted that is not in the identified project footprint shall be disclosed immediately to the city, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC) and shall be compensated at a minimum ratio of 5:1.
h) Construction access to and from the site will be located along existing access routes or disturbed areas to the greatest extent possible. All access routes outside of existing roads or construction areas will be clearly marked.
i) Construction employees will limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.
j) Equipment storage, fueling, and staging areas shall be located on disturbed upland sites with minimal risk of direct drainage into riparian areas or other sensitive habitats and at least 100 feet from waters of the United States. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. All necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. All project-related spills of hazardous materials shall be reported to the city and shall be cleaned up immediately, and contaminated soils shall be moved to approved disposal areas.
k) If stream flows must be diverted (unlikely for the bridge construction), the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from re-entering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
l) Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
m) Fugitive dust will be avoided and minimized through watering and other appropriate measures.

BIO-7 The City has the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions, including best management practices (BMPs). The USFWS and CDFW may accompany City representatives on this inspection.

c) ***Less than Significant With Mitigation Incorporated:*** Results of the jurisdictional delineation indicate there are two types of potentially jurisdictional wetland resources on site: non-wetland relatively permanent waters of the United States (RPW) and wetland associated riparian vegetation. The non-wetland RPWs identified on site are subject to the joint jurisdiction of the ACOE, RWQCB, CDFW, and CCC. The associated riparian vegetation mapped alongside Encinas Creek in the southern portion of the site is subject to jurisdiction under the CDFW and CCC. The two types of potential jurisdictional resources (i.e., non-wetland RPW and associated riparian vegetation) that were identified and evaluated during the delineation

included: (1) earthen and concrete-lined portions of a perennial creek channel and (2) riparian vegetation associated with Encinas Creek, respectively.

The first type of jurisdictional resource on site is a perennial creek channel. This feature represents the ordinary high water mark (OHWM) of Encinas Creek which flows westward and is located along the northern boundary of the site to the south of Palomar Airport Road. Within the site, portions of Encinas Creek are both earthen and concrete-lined; earthen portions are mapped as open water (OW) and the concrete sections are mapped as open water/concrete-channel (OW-CC). The extent of agency jurisdiction within the concrete sections of the creek are mapped to the limits of the concrete-lining, whereas the earthen portions of the creek were mapped according the OHWM. Within the site, there is 345 linear feet of Encinas Creek that is conveyed underground via culverts (refer to Figure 8).

The second type of jurisdictional feature on site is riparian vegetation associated with the creek, which is southern willow scrub. The southern willow scrub community on site is strictly associated with Encinas Creek and occurs along both banks of the creek. The riparian vegetation areas are dominated by hydrophytic vegetation (i.e., arroyo willow and poison hemlock); however, they do not support hydric soil conditions[2] and lack evidence of hydrology. Therefore, these areas are determined to be jurisdictional under the CDFW and CCC due to the dominance of hydrophytic vegetation and association with a stream channel (i.e., Encinas Creek).

Direct Impacts

Based on the analysis of the proposed limits of grading, impacts will occur to jurisdictional waters of the United States and riparian habitat due to the construction of the bridge/emergency access. Impacts to jurisdictional resources are considered significant. As shown in Table 8, a total of 0.04 acres of southern willow scrub under the jurisdiction of CDFW and CCC would be impacted directly by the placement of the bridge. A total of 0.04 acres of southern willow scrub under the jurisdiction of the CDFW and CCC would not be directly impacted, but lies underneath the bridge and may be affected by shading. All direct impacts to ACOE and RWQCB jurisdictional areas would be avoided, but 0.01 acres of open water would be bridged. The site includes preserve areas that include Encinas Creek and riparian vegetation plus a buffer that would be restored to native vegetation. The applicant met with CDFW, ACOE, and RWQCB on November 14, 2017. The ACOE and RWQCB confirmed that they would not require a permit for the project.

Table 8

Proposed Impacts to Jurisdictional Areas on the Project Site

Vegetation Community/ Land Cover Type	Resource Agency Jurisdiction (Acres)			
	Shading (Bridge) ACOE/RWQCB/CDFW/CCC	*Permanent CDFW/CCC*	*Shading (Bridge) CDFW/CCC*	*Grand Total*
Southern willow scrub	—	0.04	0.04	0.08
Developed/concrete-channel	—	—	—	0.00
Open water	0.01	—	—	0.01
Open water/concrete-channel	—	—	—	0.00

2 The southern willow scrub mapped along the south side of the westernmost parcel is separated from Encinas Creek by non-native vegetation; hydric soils were present within this portion of the southern willow scrub; however, there are no hydrology indicators. Hence, this area is designated as CDFW/CCC jurisdiction.

Table 8

Proposed Impacts to Jurisdictional Areas on the Project Site

Vegetation Community/ Land Cover Type	Resource Agency Jurisdiction (Acres)			
	Shading (Bridge) ACOE/RWQCB/CDFW/CCC	*Permanent CDFW/CCC*	*Shading (Bridge) CDFW/CCC*	*Grand Total*
Grand Total	**0.01**	**0.04**	**0.04**	**0.09**

Notes: ACOE = U.S. Army Corps of Engineers; CCC = California Coastal Commission; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board

Mitigation is required for the impact to coastal sage scrub, open water, and southern willow scrub. In the Carlsbad HMP, the CCC has required that there be no net loss of these sensitive vegetation communities/resources within the Coastal Zone. Thus, substantial restoration or creation must account for at least 1:1 of the mitigation. In addition, within the Coastal Zone, on-site mitigation by preservation is not allowed. All mitigation will need to be through purchase of off-site land or through restoration of disturbed lands as outlined in the Carlsbad HMP. As discussed in Mitigation Measure BIO-5, the proposed project would include on-site restoration of suitable fully disturbed habitat within the Coastal Zone for all of the impacts. This area would be restored to functional coastal sage scrub, open water, and southern willow scrub. Additionally, implementation of Mitigation Measure BIO-8 would require attainment of permits and agreements, further reducing the impacts of jurisdictional resources. Therefore, direct impacts to jurisdictional areas would be reduced to less than significant with implementation of Mitigation Measures BIO-5, BIO-6, and BIO-8.

Indirect Impacts

Many of the potential short- and long-term indirect impacts to vegetation communities and special-status plants (described previously) also apply to the jurisdictional waters and riparian habitat. Areas downstream of the project site may be subject to erosion, sedimentation, and pollution during and following project construction. Although standard construction BMPs and recommended preserve design configuration have been incorporated into the proposed project, short- and long-term indirect impacts could occur. Protection for the riparian and riparian buffers is described in response (b). Additionally, implementation of Mitigation Measures BIO-9 and BIO-10 would incorporate protective habitat buffers into the project design and compliance with the adjacency standards outlined in the Carlsbad HMP, preventing impacts adjacent to the riparian areas. Therefore, indirect impacts to jurisdictional areas will be reduced to less than significant with implementation of Mitigation Measures BIO-9 and BIO-10.

Mitigation Measures

BIO-8 Impacts to jurisdictional resources are anticipated in order to construct the emergency access and bridge. Prior to the issuance of permits for grading or construction activities, the applicant shall obtain the following permits and agreement:

- A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife (CDFW) for maintenance activities in the streambed
- Any necessary California Coastal Act permits from the California Coastal Commission (CCC) and/or City of Carlsbad.

BIO-9 Protective habitat buffers consistent with the City of Carlsbad's Habitat Management Plan (Carlsbad HMP) and Guidelines for Riparian Buffers shall be incorporated into project design. Prior to the recordation of the first final map, the riparian buffers shall be included in the restrictive covenant that also will provide protection for the riparian habitat. The upland buffer is not to be included in the restrictive covenant.

BIO-10 In order to prevent impacts of the proposed development on the City of Carlsbad's Habitat Management Plan (Carlsbad HMP) preserve area off site and to the west or to the native vegetation in the riparian habitat proposed to be amended into the Carlsbad HMP preserve, the proposed project shall comply with the adjacency standards outlined in the Carlsbad HMP. Prior to the issuance of the first grading permit, the project plans shall reflect the adjacency standards as follows:

a. Fire Management

Fire management for the proposed project shall be addressed through the designation of the fuel modification zones (FMZs). All FMZ areas shall be incorporated within the development boundaries and shall be addressed with the preparation of a fire protection plan (FPP).

b. Erosion Control

Standard best management practices (BMPs) will be implemented to slow surface flow and dampen initial precipitation flow in the development area. In addition, no new surface drainage shall be directed into the open space areas.

c. Landscaping Restrictions

Landscape planting palettes for the proposed project shall not use non-native, invasive plant species in the areas adjacent to the riparian or upland habitat or adjacent to the Carlsbad HMP preserve off site to the west or south. In addition, because the site is within the Coastal Zone, no invasive plant species shall be used in the landscaping of the development. These plant species are identified in the Carlsbad HMP but the list of invasive species that will be avoided is not limited to the species on the Carlsbad HMP list. Irrigation of the landscaping shall be designed and scheduled to avoid runoff into the proposed open space. The riparian and upland buffers shall be restored with native habitat per the concept plan.

d. Fencing, Signs, and Lighting

To deter entry into the riparian habitat (open space area protected by the restrictive covenant) by people and pets, the area shall be fenced with post and cable fencing. Signs shall be attached to the fence at intermittent intervals to alert the residents of the sensitive nature of the open space area and that dogs are not allowed. A trail is proposed to be located within the 15 feet closest to development, and the fencing shall preclude people from passing beyond the trail into the habitat. Other than safety lighting, no lighting that shall intrude into the riparian habitat and will be shielded or directed away from the open space area. Fencing shall be installed along the southern boundary in

supplement to the existing walls and to prevent people from entering the preserve area off site. Fencing and walls shall also be installed in any areas adjacent to the proposed open space to preclude human activity within the open space.

e. Predator and Exotic Species Control

The homeowners' association (HOA) for the proposed development shall alert the residents to the potential effects that domestic animals may have on the native fauna and flora. The riparian habitat shall be fenced to discourage the entry of domestic animals into the open space.

d) ***Less-than-Significant Impact:*** The project occurs within a potential area for wildlife movement within Encinas Creek along the north side of the property. The proposed bridge crossing would not reduce wildlife movement through the area since it will provide for a wide and open area within which wildlife may move. The total span of the bridge, from the top of each abutment, is 60 feet. The conceptual bridge design provides an openness ratio of approximately 2.0. This calculation is based on the width of the span (approximately 40 feet (12.2 meters) across natural grade), the height of the bridge (approximately 10 feet (three meters)), and total length of the span (approximately 60 feet (18.3 meters)). The openness ratio is based on the width times the height divided by the length, in meters (Arizona Game and Fish Department 2008). The MHCP recommends a minimum 1:1 length-to-width ratio, which the proposed design also meets (SANDAG 2003). Minimum openness ratios for movement of large mammals is 1.0; the proposed bridge provides double times this ratio and therefore is more than adequate to ensure wildlife movement.
Direct impacts to the habitat linkages within Encinas Creek is less than significant since the crossing is proposed to be a bridge span that is placed outside of jurisdictional limits. With the fencing and management, indirect impacts are also considered less than significant.

e) ***Less than Significant with Mitigation Incorporated:*** The city has no formal tree protection ordinance that pertains to trees located on private property. The city's Tree Ordinance pertains to protection of trees within the public right-of-way (City of Carlsbad 2000). However, as a condition of Resolution No. 1995 CT 82-4/PUD-38, "whenever possible, the existing live oaks onsite shall be preserved" (City of Carlsbad 1985). Tree removal or encroachment within the tree-protected zone (canopy dripline plus five feet or 15 feet from trunk, whichever is greater) is anticipated with implementation of the proposed project (Dudek 2019). Tree removal is expected to be required when the trunk is located inside or within two feet of the proposed limits of grading. See Figure 9, Tree Impacts, for locations of trees to be removed and preserved and encroachment locations.

Dudek prepared an Arborist Report (Dudek 2019), which inventoried and evaluated 110 trees on and adjacent to the project site. In total, 23 trees are anticipated to be directly impacted by the current proposed project and are not recommended for preservation. Additionally, Appendix D of the Biological Technical Report provides tree protection measures prior, during, and after construction (Dudek 2019). These measures will act as general guidelines for tree protection from construction impacts. The measure shall be monitored by arborists and enforced by contractors. In compliance with the tree protection measures outlined in the Biological Technical Report, the project would not conflict with any local policies or ordinances protection biological resources. With implementation of Mitigation Measure BIO-2, impacts to oak trees would be less than significant.

The City adopted the *Habitat Management Plan for Natural Communities in the City of Carlsbad* (City of Carlsbad 2004) with the purpose to identify how the city, in cooperation with federal and state wildlife

agencies, can preserve the diversity of habitat and protect sensitive species in conjunction with private development projects, public projects, and other activities, which are consistent with the Carlsbad HMP (Dudek 2019). Refer to Threshold F below for a discussion regarding the Carlsbad HMP.

f) *Less than Significant With Mitigation Incorporated:* The proposed project is located in the Carlsbad HMP area and the Coastal Zone. The City of Carlsbad HMP is a comprehensive, citywide conservation program whose purpose is to identify and preserve sensitive biological resources within the city while allowing for additional development consistent with the city's General Plan and Growth Management Plan. Specific biological objectives of the HMP are to conserve the full range of vegetation types remaining in the city, with a focus on protecting rare and special-status habitats and species. The HMP acts as a Subarea Plan to the overall MHCP that was approved and finalized in 2003 (SANDAG 2003).

This biological resources technical report has been prepared in consultation with the Guidelines for Biological Studies (City of Carlsbad 2008) and the Carlsbad HMP (City of Carlsbad 2004). The proposed project is located within Local Facilities Management Zone 5, and is not located in any existing or proposed hardline preserve areas except for the western additional parcel which is designated Link F which connects Cores 4, 6, and 8. The proposed project adheres to the guidelines established for Facilities Management Zone 5, including restoration activities as appropriate for the location.

The *Guidelines for Biological Studies* require buffers and avoidance of sensitive habitats, including wetlands, riparian, and native upland habitats (City of Carlsbad 2008). Buffer widths of 50 feet for riparian habitat and 20 feet for other native upland habitats have been designated for the site. The measurement of the riparian buffer is taken from the top of the bank or from the outer edge of the riparian dripline, whichever is greater. The measurement of the 20-foot upland buffer is taken from the boundary of the HMP preserve or from the edge of the mapped upland habitat, whichever is greater. This will ensure that consistency with the Carlsbad HMP is met, which includes no impacts to special-status species that may potentially occupy these habitats and no net loss of special-status habitats as a result of the proposed project. Other applicable conditions of the Carlsbad HMP include focused surveys for target species and application of specific mitigation standards for temporary and permanent impacts to vegetation communities.

The Carlsbad HMP was approved by the CCC after the insertion of an addendum that outlines certain additional conservation measures for properties within the Coastal Zone. These measures were incorporated into the Local Coastal Program (LCP) by the city and was also incorporated into the Carlsbad HMP. The entire proposed project area is located within the Coastal Zone and adheres to the policies of the CCC except where noted and discussed below.

Under the Carlsbad HMP, the project site does not have designation of existing or proposed hardline or standards areas except for the western parcel. The proposed project continues to have designated as HMP hardline preserve on the western parcel. There is no proposed impact to the HMP preserve other than that area required for the emergency access. This impact to the HMP hardline preserve is compensated by the designation of the riparian and riparian buffer on site as HMP preserve. There is also HMP hardline preserve off site along the southern property line as part of the Cobblestone property. Finally, the project will designate the riparian habitat and buffers per the proposed open space and as HMP preserve.

The Carlsbad HMP identifies the need for buffers to protect sensitive biological resources. The Carlsbad HMP stipulates that a 20-foot buffer is required between development and upland native vegetation, such as coastal sage scrub. Where there is an existing paved road currently present within the upland buffer,

the buffer function is supported by a combination of fencing and wall. Other than the required emergency access road, there is no impact within the 20-foot upland buffer and upland buffer is provided for the emergency access road and analyzed as an impact.

The Carlsbad HMP also identifies that a 50-foot riparian buffer is required between development and riparian vegetation such as southern willow scrub. That buffer has been provided as shown on Figure 8. For areas that have an existing paved road within the buffer, the buffer is provided by fencing and wall. This buffer will be restored to native habitat as required, a revegetation plan has been prepared (Dudek 2019) and the buffer and riparian habitat will be incorporated into the Carlsbad HMP. The buffer and riparian habitat will be protected by a restrictive covenant, will be managed by a qualified land manager and will have funding in perpetuity.

The development of the proposed project conforms to all of the identified goals and standards outlined in the Carlsbad HMP. Impacts to coastal sage scrub are only related to the requirements of the emergency access. This impact has been reduced to the maximum feasible by narrowing, fencing, using a span bridge and has been placed in the best acceptable location for the project. However, the emergency access is a required feature to provide fire protection for the project. Development impacts are limited to the areas previous graded and approved for development.

Impacts are proposed to occur to the riparian buffer in the western part of the site. There is also an impact to the riparian buffer adjacent to the proposed residential development with a narrow sliver of 0.01 acre that is made up by addition of a larger block. The buffer will be revegetated to native habitat in accordance with the Carlsbad HMP and per the concept plan (Dudek 2019a).

Due to the adjacency of the project to the Carlsbad HMP hardline preserve and the proposed area to be added to the HMP preserve, the project is subject to the adjacency standards which are included below in the mitigation section. In addition, the project will comply with the conservation standards within the Coastal Zone, including no net loss of upland or riparian habitat.

The development of the site is consistent with the Carlsbad HMP with respect to the covered species of the Carlsbad HMP.

The entire site is outside of the HMP preserve except for the 0.60-acre western-most parcel. Within the Carlsbad HMP, this parcel is designated as 100 percent HMP preserve.

The proposed project is adjacent to the Carlsbad HMP preserve along the western and southern edges of the site. The Carlsbad HMP includes adjacency standards and proposes buffers to avoid and minimize impacts to sensitive vegetation communities in conservation areas or jurisdictional resources that are adjacent to developed areas. Adjacency standards addressed in the Carlsbad HMP include fire management, erosion control, landscaping restrictions, fencing, signs and lighting, and predator and exotic species control (Dudek 2019). With implementation of Mitigation Measures BIO-9 through BIO-12, impacts related to the Carlsbad HMP will be reduced to a level below significant.

Mitigation Measures

BIO-11 The City of Carlsbad's Habitat Management Plan (Carlsbad HMP) requires that impacts to disturbed habitat (Group F) required mitigation with an in-lieu fee. Thus, the project is required to pay an in-lieu mitigation fee (also known as the HMP mitigation fee) for

impacts to disturbed habitat prior to final map approval, issuance of a grading permit or clearing of any habitat, whichever occurs first. This is a per-acre fee charged for impacts to Habitat Groups D, E, and F, totaling 6.26 acres, as an alternative to conserving habitat on site or acquiring habitat off site to mitigate for such impacts. The cost per acre for this mitigation fee will be determined by the city.

BIO-12 Prior to final map approval, issuance of a grading permit or clearing of any habitat, whichever occurs first, the applicant shall perform the following:

- Record a conservation easement, as defined by California Civil Code, Section 815.1, or other protective measure for all on-site mitigation land including 4.11 acres of open space.
- Select a qualified conservation entity to manage the conserved land.
- Prepare a Property Analysis Record to estimate costs of in perpetuity management and monitoring or otherwise provide for an estimate of funding needed.
- Provide a non-wasting endowment or other funding sources acceptable to the wildlife agencies, California Coastal Commission (CCC), and City of Carlsbad based on the Property Analysis Record to sufficiently cover the costs of in-perpetuity management and monitoring.
- Prepare a preserve management plan, which will be approved by the city and wildlife agencies.

V. CULTURAL RESOURCES **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

a, b, c) ***Less than Significant with Mitigation Incorporated:*** A Cultural Resources Technical Report was prepared by Dudek in March of 2017, which includes a cultural resources records search and literature review, Native American coordination, and a cultural resources survey. Technical memoranda and reports are hereby incorporated by reference. The Cultural Resources Technical Report indicates that 43 cultural resources have been previously recorded within the vicinity of the project site, one of which (P-37-010876/CA-SDI-10876) is located within the project site (Dudek 2017). However, P-37-010876/CA-SDI-10876 was determined in 1988 and confirmed in 2014 to be entirely composed of imported fill material. The entire project site is composed of imported fill material that has been terraced from the southeastern corner of the project site to the northwest. No historical built environmental resources are located on the project site. Given the highly disturbed nature of the site, the potential for encountering resources would be low. Intact cultural materials may be present within the original surface elevations; therefore,

Mitigation Measures CUL-1 through CUL-12 will be implemented to minimize impacts to cultural resources to levels less than significant.

Mitigation Measures

CUL-1 An archaeological monitor shall be present for initial ground-disturbing activities associated with the proposed project in the event unanticipated discoveries are made. If human remains are discovered, California Health and Safety Code Section 7050.5, states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County coroner shall be contacted. At this time, the person who discovered the remains will contact the City of Carlsbad so that they may work with the most likely descendent on the respectful treatment and disposition of the remains.

CUL-2 Prior to the commencement of any ground disturbing activities, the project developer shall enter into a Pre-Excavation Agreement, otherwise known as a Tribal Cultural Resources Treatment and Tribal Monitoring Agreement, with the San Luis Rey Band of Mission Indians or other Luiseño tribe. This agreement will contain provisions to address the proper treatment of any tribal cultural resources and/or Luiseño Native American human remains inadvertently discovered during the course of the project. The agreement will outline the roles and powers of the Luiseño Native American monitors and the archaeologist. A copy of said archaeological contract and Pre-Excavation Agreement shall be provided to the City of Carlsbad prior to the issuance of a grading permit.

CUL-3 A Luiseño Native American monitor shall be present during all ground disturbing activities. Ground disturbing activities may include, but are not limited to, archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.

CUL-4 Any and all uncovered artifacts of Luiseño Native American cultural importance shall be treated with dignity and respect and be reburied on-site within an appropriate location protected by open space or easement, etc., where the cultural items will not be disturbed in the future, or shall be returned to the Most Likely Descendant, whichever is most applicable, and shall not be curated, unless ordered to do so by a federal agency or a court of competent jurisdiction.

CUL-5 The Luiseño Native American monitor shall be present at the project's on-site preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as consult with the principal archaeologist concerning the proposed archaeologist techniques and/or strategies for the project.

CUL-6 Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth moving activity within and around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.

CUL-7 If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground disturbing activities for this project, the San Luis Rey Band of

Mission Indians shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resources Code Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan, is authorized by the City of Carlsbad as the lead agency, the San Luis Rey Band of Mission Indians shall be consulted regarding the drafting and finalization of any such recovery plan.

CUL-8 When tribal cultural resources are discovered during the project, if the archaeologist collects such resources, a Luiseño Native American monitor must be present during any testing or cataloging of those resources. If the archaeologist does not collect the tribal cultural resources that are unearthed during the ground disturbing activities, the Luiseño Native American monitor shall follow the procedures in CUL-4.

CUL-9 If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the Native American Heritage Commission (NAHC) must be contacted by the Medical Examiner within 24 hours. The NAHC must then immediately notify the "Most Likely Descendant" about the discovery. The Most Likely Descendant shall then make recommendations within 48 hours, and engage in consultation concerning treatment of remains as provided in Public Resources Code 5097.98.

CUL-10 In the event that fill material is imported into the project area, the fill shall be clean of tribal cultural resources and documented as such. If fill material is to be utilized and/or exported from areas within the project site, then that fill material shall be analyzed and confirmed by an archeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.

CUL-11 No testing, invasive or non-invasive, shall be permitted on any recovered tribal cultural resources without the written permission of the San Luis Rey Band of Mission Indians.

CUL-12 Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusions of the monitoring program shall be submitted by the archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval, and shall be submitted to the South Coastal Information Center. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

VI. Energy Would the project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a) ***Less-than-Significant Impact:*** The electricity and natural gas used for construction of the proposed project would be temporary, would be substantially less than that required for project operation, and would have a negligible contribution to the project's overall energy consumption. Additionally, although natural gas and electricity usage would increase due to the implementation of the project, the project's energy efficiency would meet the current Title 24 standards. Although the project would see an increase in petroleum use during construction and operation, vehicles would use less petroleum due to advances in fuel economy and potential reduction in vehicle miles traveled (VMT) over time.

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers would be provided by Southern California Edison (SCE). The electricity used for such activities would be temporary, would be substantially less than that required for project operation, and would have a negligible contribution to the project's overall energy consumption.

Natural Gas

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the Petroleum subsection. Any minor amounts of natural gas that may be consumed as a result of project construction would be substantially less than that required for project operation and would have a negligible contribution to the project's overall energy consumption.

Petroleum

Heavy-duty construction equipment associated with demolition and construction activities for construction would rely on diesel fuel, as would vendor trucks involved in delivery of materials to the project site. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed in this analysis that construction workers would travel to and from the site in gasoline-powered light-duty vehicles.

Heavy-duty construction equipment of various types would be used during each phase of project construction. The project's Air Quality report (Dudek 2020a) lists the assumed equipment usage for

each phase of construction. The project's construction equipment is estimated to operate a total combined 18,720 hours.

Fuel consumption from construction equipment was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Construction is estimated to occur in 2018 and 2019 based on the construction phasing schedule. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2018). The estimated diesel fuel usage from construction equipment is shown in Table 9.

Table 9

Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO_2 (MT)	kg/CO_2/Gallon	Gallons
Site Preparation	7	17.52	10.21	1,715.49
Grading	8	85.63	10.21	8,387.27
Trenching	3	5.36	10.21	524.71
Building Construction	9	254.49	10.21	24,925.20
Paving	12	35.94	10.21	3,520.27
Architectural Coating	1	3.41	10.21	334.13
			Total	**39,407.08**

Sources: Pieces of equipment and equipment CO_2 (Dudek 2020a); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.

Fuel consumption from worker- and vendor-truck trips are estimated by converting the total CO_2 emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Haul truck trips would not be required for the proposed project. Worker vehicles are assumed to be gasoline and vendor vehicles are assumed to be diesel. Calculations for total worker- and vendor-truck fuel consumption are provided in Tables 10 and 11.

Table 10

Construction Worker Gasoline Demand

Phase	Trips	Vehicle MT CO_2	kg/CO_2/ Gallon	Gallons
Site Preparation	180	0.70	8.78	79.18
Grading	600	2.32	8.78	263.93
Trenching	80	0.31	8.78	35.19
Building Construction	40,800	154.22	8.78	17,565.01
Paving	320	1.20	8.78	136.51
Architectural Coating	840	3.15	8.78	358.34
			Total	**18,438.17**

Sources: Trips and vehicle CO_2 (Dudek 2020a); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

Table 11

Construction Vendor Diesel Demand

Phase	Trips	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Trenching	0	0.00	10.21	0.00
Building Construction	9,200	122.73	10.21	12,020.40
Paving	80	1.05	10.21	102.43
Architectural Coating	0	0.00	10.21	0.00
			Total	**12,122.83**

Sources: Trips and vehicle CO_2 (Dudek 2020a); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

In summary, construction of the project is conservatively anticipated to consume 18,438 gallons of gasoline and 51,530 gallons of diesel, which would last approximately 12 months. By comparison, California's consumption of petroleum is approximately 74.8 million gallons per day. Based on these assumptions, approximately 25.1 billion gallons of petroleum would be consumed in California over the course of the construction period (EIA 2017). Within San Diego County, approximately 1,440 million gallons of petroleum would be consumed over the course of the construction period (CARB 2018). Therefore, impacts associated during construction would be less than significant.

Operation

Electricity

The operation of the project buildout would require electricity for multiple purposes, including cooling, lighting, water heating, appliances, and various equipment. Additionally, the supply, conveyance, treatment, and distribution of water would indirectly result in electricity usage. Electricity consumption associated with project operation is based on the CalEEMod outputs presented in the project's Air Quality Report (Dudek 2020a).

CalEEMod default values for energy consumption for each land use were applied for the project analysis. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey (CAPCOA 2016). Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the HVAC system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

The project would include a solar photovoltaic (PV) rooftop system. The project would also include use of light emitting diode (LED) lighting or other efficient lighting for at least 75 percent of the total luminaires.

Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. According to these estimations, the proposed project would consume approximately 1,509,599 kWh per year during operation. For comparison, in 2017 the residential electricity demand in San Diego County was 6,853,912,925 kWh(CEC 2019).

Natural Gas

The operation would require natural gas for various purposes, including natural gas appliances. Natural gas consumption associated with operation is based on the CalEEMod outputs presented in the project's Air Quality Report (Dudek 2020a).

CalEEMod default values for energy consumption for each land use were applied for the project analysis. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey (CAPCOA 2017). Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the HVAC system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

The project would include a solar water heating system on site to heat the swimming pool. Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. According to these estimations, the proposed project would consume approximately 303,553 kilo-British Thermal Units per year. For comparison, in 2017 the residential natural gas use within San Diego County was 27,279,653,100,000 kilo-British Thermal Units (CEC 2019).

Petroleum

During operations, the majority of fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by residents and employees.

Based on the traffic impact analysis, the project is expected to generate up to six trips per day per dwelling unit (LLG 2020). The CalEEMod Version 2016.3.2 model was used to estimate daily emissions from proposed vehicular sources (Dudek 2020a). CalEEMod Version 2016.3.1 default data, including temperature, trip characteristics, variable start information, and emissions factors were conservatively used for the model inputs. The project is estimated to generate up to 2,330,010 vehicle miles travelled per year (LLG 2020). Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2022 were conservatively used to estimate emissions associated with vehicular sources. The 2022 operational year represents the first full year the project would be operational.

Similar to the construction worker and vendor trips, fuel consumption from resident and employee trips are estimated by converting the total CO_2 emissions from operation of the project to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel.

Calculations for annual mobile source fuel consumption are provided in Tables 12 (gasoline) and 13 (diesel).

Table 12

Annual Mobile Source Gasoline Demand

	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Operation	879.63	8.78	100,185.84

Sources: Trips and vehicle CO_2 (Dudek 2020a); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram

Table 13

Annual Mobile Source Diesel Demand

	Vehicle MT CO_2	kg/CO_2/Gallon	Gallons
Operation	56.79	10.21	5,561.94

Sources: Trips and vehicle CO_2 (Dudek 2019b); kg/CO_2/Gallon (The Climate Registry 2018).
Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram

Summary

Statewide emission reduction measures proposed in the CARB-adopted amendments to the Pavley regulations include measures aimed at reducing GHG emissions associated with transportation. These amendments are part of California's commitment to a nationwide program to reduce new passenger-vehicle GHGs from 2012 through 2016. Pavley regulations reduced GHG emissions from California passenger vehicles by about 22 percent in 2012. It is expected that Pavley regulations will reduce GHG emissions from California passenger vehicles by about 30 percent in 2016, while improving fuel efficiency and reducing motorists' costs. As such, vehicle trips associated with the project are expected to use less petroleum due to advances in fuel economy over time.

CARB has adopted a new approach to passenger vehicles—cars and light trucks—by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California (CARB 2017).

The proposed project would create additional electricity and natural gas demand by adding recreational and commercial facilities. New facilities associated with the proposed project would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of nonresidential buildings and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting.

In summary, although natural gas and electricity usage would increase due to the implementation of the project, the project's energy efficiency would be in accordance with state Title 24 standards. Although the project would see an increase in petroleum use during construction and operation, vehicles would use less petroleum due to advances in fuel economy and potential reduction in VMT over time. Therefore, impacts would be less than significant.

b) Less-than-Significant Impact: The proposed project would be subject to and would comply with, at a minimum, the 2016 California Building Code Title 24 (24 CCR, Part 6). The proposed project would be consistent with CARB's Scoping Plan, AB 32, and SB 32. The proposed project would not conflict with existing energy

standards and regulations; therefore, impacts during construction and operation of the proposed project would be less than significant.

VII. GEOLOGY AND SOILS **Would the project:**	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soils, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

This section is based on the Updated Geotechnical Evaluation (Geotechnical Report) prepared by GeoTek Inc. in July 2017 (GeoTek 2017) and a revised Geotechnical Report prepared by GeoTek Inc. in August 2016 (GeoTek 2016a). Background and methodologies regarding the geotechnical analysis can be found in these reports. These technical memoranda and reports are hereby incorporated by reference.

a) i. ***Less-than-Significant Impact:*** The project site is located within the seismically active region of Southern California. The California Geologic Survey does not include the city on its list of cities affected by Alquist-Priolo Earthquake Fault Zones (City of Carlsbad 2015a). There are no active faults that run directly through Carlsbad. The nearest fault to the city is the Newport-Inglewood-Rose-Canyon Fault, which runs offshore of the western edge of the city and is located approximately eight miles west of the project site, and the Pre-Quaternary Faults, located approximately eight miles to the southeast of the project site (City of Carlsbad 2015a). Although there are no active faults within the city, the city is located within a

seismically active region, and earthquakes have the potential to cause ground shaking of significant magnitude. Although located near fault lines, the city lies within a medium-low probabilistic peak ground acceleration zone during earthquake shaking (City of Carlsbad 2015a). Therefore, due to its distance to the nearest active fault, the project site would not be substantially affected by fault rupture. Impacts would be less than significant.

a) ii. ***Less-than-Significant Impact:*** The project would be located within the seismically active region of Southern California. The proximity to nearby fault zones such as the Newport-Inglewood-Rose-Canyon Fault (approximately eight miles from the project site) and the Pre-Quaternary Faults (eight miles from the project site) could subject the project site to strong seismic ground shaking. According to the July 2017 geotechnical report (GeoTek 2017), the project site is in a seismically active region. However, no active or potentially active fault is known to exist at the site, and the site is not situated within an Alquist-Priolo Earthquake Fault Zone. Further, the project would comply with the most recent California Building Code and applicable grading ordinances of the City of Carlsbad and the San Diego County. Additionally, a certified geotechnical company would continue to review site plans as they become available, which includes building design standards intended to minimize risk to people and structures from potential seismic ground shaking. As such, impacts would be less than significant. As such, impacts would be less than significant.

a) iii. ***Less-than-Significant Impact:*** Liquefaction typically occurs when a site is subjected to strong seismic shaking, on-site soils are cohesionless, and groundwater is encountered near the surface. The factors known to influence liquefaction potential include soil type and grain size, relative density, groundwater level, confining pressures, and intensity and duration of ground shaking. In general, materials that are susceptible to liquefaction are loose, saturated granular soils that have low fines content under low confining pressures. Figure 6-6 in the Public Safety Element of the General Plan indicates that the project site is not within a liquefaction hazard area (City of Carlsbad 2015a). As described in the geotechnical report (GeoTek 2017), laboratory testing on samples of the fill and soils were performed at the project site. The results of the analysis indicated that two of the borings showed some liquefaction potential. However, total seismic settlement is estimated to be 1.5 to 2.5 inches with an estimated differential seismic-induced settlements of 0.75 to 1.25 inches over a 40-foot span, and surface manifestation is not anticipated should liquefaction occur. Further, prior to the issuance of the grading permit, the applicant shall verify that the applicable recommendations of the geotechnical report have been incorporated into the project design and construction documents to the satisfaction of the city engineer. Recommendations shall be held to performance standards within the applicable ordinances (including site clearing and preparation, fills, and excavation regulations) of the City of Carlsbad and San Diego County, as well as the standards provided in the most recent California Building Code. With implementation of the recommendations outlined in the geotechnical report and performance standards within all applicable ordinances, the risk of loss, injury, or death involving liquefaction would be less than significant.

a) iv. ***Less-than-Significant Impact:*** The project site is generally flat with no steep slopes and does not contain soils subject to potential landslides. The geotechnical report concluded that the project site is not located within a State of California Seismic Hazard Zone for earthquake-induced land sliding. Further, evidence of ancient landslides or slope instabilities at the site was not observed during the site investigation. Therefore, the potential for landslides is considered negligible, and impacts would be less than significant.

b) ***Less-than-Significant Impact:*** The project site is undeveloped and has been previously graded. Project construction would involve site preparation, some additional grading, and trenching, which may temporarily expose soils to increased erosion potential. The project would be required to comply with the National

Pollutant Discharge Elimination System Construction General Permit, which requires the implementation of a stormwater pollution prevention plan. The stormwater pollution prevention plan would employ various BMPs intended to minimize soil erosion during construction. BMPs may include measures such as watering the exposed areas to reduce erosion potential. Upon completion of construction, the project site would be fully developed with structures, parking, and landscaped areas, which would minimize any long-term erosions potential. Therefore, impacts would be less than significant.

c) ***Less-than-Significant Impact:*** Excavation of four exploratory hollow-stem auger borings and eight exploratory trenches were performed within in the project site to test soil characteristics. Boring depths ranged from approximately 10.5 feet to approximately 46.5 feet below the surface. Relatively undisturbed and bulk samples of on-site soil materials from the excavations were collected and tested in a laboratory to confirm the field classification of the soil materials encountered and to evaluate the soils physical properties for the use in the engineering design and analysis of the project. Tests indicate that the area of anticipated improvements at the project site is mostly underlain by fill soils, which are in turn locally underlain by alluvium, and then sedimentary bedrock material. Refer to the geotechnical report (GeoTek 2017) for a full discussion and test results of the underlying soils.

The geotechnical report concluded that, while development of the site appears feasible from a geotechnical standpoint, the upper two feet of fill soils were found to be relatively loose and soft, most likely as a result of repeated wetting (expansion) and drying (shrinkage) of these materials since original placement over 28 years ago. Bioturbation also likely has contributed to this condition. Prior to the issuance of the grading permit, the applicant is required to verify that the applicable recommendations of the Geotechnical Evaluation have been incorporated into the project design and construction documents to the satisfaction of the city engineer. At minimum, the upper two feet of existing fill soils should be completely removed within structural grading limits. The exposed conditions would be observed and tested by a representative of GeoTek to confirm suitable existing engineering fill soils are present prior to the fill placement. Furthermore, structural elements of the proposed building structures should be underlain by a minimum of six feet of engineered fill or a minimum of eight feet from finish grade elevations (whichever is deeper). Removal would extend down and away from foundation elements at a 1:1 projection to the recommended removal depth. Recommendations shall be held to performance standards within the applicable ordinances (including grading, construction, and landscaping regulations) of the city and the standards provided in the most recent California Building Code that are intended to reduce risk related to geologic hazards. Therefore, with implementation of these recommendations, impacts would be less than significant.

d) ***Less-than-Significant Impact:*** Soils beneath the project site were tested for their expansive properties. As stated in the geotechnical report (GeoTek 2017), soils beneath the project site represent a low to medium expansion potential. Prior to the issuance of the grading permit, the applicant shall verify that the applicable recommendations of the geotechnical report have been incorporated into the project design and construction documents to the satisfaction of the city engineer. Recommendations shall be held to performance standards within the applicable ordinances (including concrete flatwork and keyways, buttress, and stabilization fills) of the City of Carlsbad and San Diego County, as well as the standards provided in the most recent California Building Code. With implementation of the recommendations outlined in the geotechnical report and performance standards within all applicable ordinances, the project would not lead to risks to life or property regarding expansive soils. Impacts would be less than significant.

e) ***No Impact:*** The project does not propose the use of septic tanks; therefore, no impact would occur.

f) ***Less than Significant with Mitigation Incorporated:*** The project site has been highly disturbed by previous grading activities. As discussed in Section VI, Geology and Soils, the site is underlain by fill soils, alluvium, and sedimentary bedrock assigned to the Santiago Formation (GeoTek 2017). According to the city's General Plan Arts, Cultural, History, and Education Element, the Santiago Formation is part of the La Jolla Group, which is considered to have a high potential for containing fossils (City of Carlsbad 2015a). Because of the varying depths of fill soils and alluvium, there is potential for grading activities to encounter the Santiago Formation and paleontological resources. Therefore, a paleontological monitor would be present during grading, as required by Mitigation Measure GEO-1, which would reduce potentially significant impacts to a level below significance.

Mitigation Measures

GEO-1 Prior to initiation of ground-disturbing activities within the project site that would extend into the Santiago Formation, a qualified paleontological monitor shall be retained to monitor and recognize potential paleontological discoveries during construction of the project. If unexpected, potentially significant paleontological resources are encountered during construction, the paleontological monitor shall have the authority to temporarily redirect or suspend construction activities and evaluate the potential significance of the find and record or salvage it. Prior to the start of ground-disturbing activities, the City of Carlsbad shall verify that the requirement for paleontological monitoring is noted on the appropriate construction documents.

VIII. GREENHOUSE GAS EMISSIONS **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purposes of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and certain hydrofluorocarbons. These gases, known as GHGs, allow solar radiation (sunlight) into the Earth's atmosphere but prevent radiative heat from escaping, thus warming the Earth's atmosphere. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contribute to what is termed "global warming," the trend of warming of the Earth's climate from anthropogenic activities. Global climate change impacts are by nature cumulative; direct impacts cannot be evaluated because the impacts themselves are global rather than localized impacts.

California Health and Safety Code, Section 38505(g), defines GHGs to include the following compounds: CO_2, CH4, N_2O, O_3, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. As

individual GHGs have varying heat-trapping properties and atmospheric lifetimes, GHG emissions are converted to carbon dioxide equivalent (CO_2E) units for comparison. The CO_2E is a consistent methodology for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure. The most common GHGs related to the project are those primarily related to energy usage—CO_2, CH4, and N_2O.

The project was evaluated against a City-specific efficiency metric threshold based on the City's 2012 GHG inventory (City of Carlsbad 2020). An efficiency metric threshold is calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the service population (residents plus employees), which then leads to the identification of a quantity of emissions that can be permitted on a per service population basis without significantly impacting the environment. This approach focuses on the overall GHG efficiency of a project relative to regulatory GHG reduction goals.

Under the efficiency metric, the project's GHG emissions are evaluated relative to the emissions level in the Project's build-out year and the build-out year's associated efficiency metric threshold. To that end, an efficiency metric threshold was calculated based on the 2022 emissions level (the year of project build-out) and the project's service population (sum of number of employees and the number of residents provided by the project).

The calculated efficiency metric threshold for 2022 based on the City's 2012 GHG emissions and the statewide emissions reduction trajectory is 4.26 MT/SP/yr. Again, this 2022 efficiency metric threshold reflects the trajectory planned for in the State's Scoping Plan. If the Project achieves the 2022 efficiency metric threshold, it would not interfere with attainment of the 2030 and 2050 statewide emission reduction targets, and therefore not interfere with the State's and the City's ability to achieve the mid-term and long-term GHG reduction targets.

Service Population

Based on a residential density of 2.59 persons per household found within the SANDAG Series 13 Growth Forecast, the project would have a residential population of 497 (2.59 persons per household X 192 units) (SANDAG 2013). The Project is estimated to have 2 employees, one leasing agent for affordable units and one leasing agent for market-rate units. Therefore, the project would have a service population of 499 (497 residents + 2 employees).

a) ***Less-than-Significant Impact:*** A GHG emissions analysis was performed for the proposed project in June 2020 by Dudek (Dudek 2020b). Technical memoranda and reports are hereby incorporated by reference.

Proposed Project GHG Emissions

Construction GHG Emissions

GHG emissions would be associated with the construction phase of the project components through use of construction equipment and vehicle trips. Emissions of CO_2 were estimated using the CalEEMod, Version 2016.3.2. For the purposes of modeling, it was assumed that construction of project components would begin in January 2021[3] and last approximately 12 months. Refer to the GHG emissions analysis for the construction scenario assumptions (Dudek 2020b).

3 See previous footnotes regarding construction schedule in Air Quality.

Table 14 shows the estimated annual GHG construction emissions associated with the project. Complete details of the emissions calculations are provided in Appendix A of the GHG emissions analysis (Dudek 2020b).

Table 14

Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2E
	Metric Tons			
2021	662.42	0.12	0.00	665.42

Source: CalEEMod, Version 2016.3.1. See the GHG emissions analysis for complete results (Dudek 2020b).
Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2E = carbon dioxide equivalent; N_2O = nitrous oxide

As shown in Table 14, the estimated total GHG emissions from construction of the project would be 665 MT CO_2E.

The loss of sequestered carbon from removal of 23 oak trees is estimated based on the carbon content estimate for each tree over the growth period (MT CO_2 per tree). The project would permanently impact 23 oak trees. The loss of sequestered carbon is presented in Table 15.

Table 15

Oak Trees Released Carbon

Tree Species	Growing Period (Years)	Sequestration Rate (MT CO_2/ Tree/Year)	Quantity of Oak Trees Removed (Trees)	Sequestered Carbon (MT CO_2)
Miscellaneous	20	0.0354	23	16.28

Source: CAPCOA 2017.
Notes: CO_2 = carbon dioxide; MT CO_2 = metric tons carbon dioxide
See the GHG emissions analysis for calculations and sources (Dudek 2020b).

As shown in Table 15, the removal of 23 oak trees would result in the release of approximately 16 MT CO_2. Including the construction emissions, the total estimated GHG emissions from the construction of the project would be 687.94 MT CO_2E.

Operational Emissions

Operation of the project would result in direct GHG emissions from area sources, indirect GHG emissions from use of electricity, vehicular traffic, waste, and water and wastewater. Refer to the GHG emissions analysis (Dudek 2020b) for operational scenario assumptions.

Table 16 shows total operational GHG emissions for the project after accounting for amortized construction emissions.

Table 16

Summary of Estimated Annual GHG Emissions

Emissions Source	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
Area	2.34	0.00	0.00	2.39

Table 16

Summary of Estimated Annual GHG Emissions

Emissions Source	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
Energy	323.17	0.01	0.00	324.39
Mobile	936.42	0.05	0.00	937.71
Waste	10.29	0.61	0.00	25.48
Water	55.97	0.34	0.01	67.10
Amortized Construction Emissions				22.72
Total Project Emissions				**1,379.79**

Source: See the GHG emissions analysis for complete results (Dudek 2020b).
Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2E = carbon dioxide equivalent; MT = metric ton; N_2O = nitrous oxide

Implementation of the project, as analyzed at the project-level of analysis, would conservatively emit approximately 1,380 MT CO_2E per year.

The gain of sequestered carbon resulting from planting and growth of approximately 35 oak trees on site is estimated based on the carbon sequestration rate for the tree species, the number of new trees, and the growing period. It is assumed that all 35 trees will grow for a minimum of 20 years. Table 17 presents the estimated one-time carbon-stock change resulting from proposed planting of new trees.

Table 17

Planted Trees Sequestered Carbon

Tree Species	Growing Period (Years)	Sequestration Rate (MT CO_2/Tree/Year)	Quantity of New Tree Plantings (Trees)	Sequestered Carbon (MT CO_2)
Miscellaneous	20	0.0354	35	24.78

Source: CAPCOA 2017.
Notes: CO_2 = carbon dioxide; MT = metric ton
See the GHG emissions analysis for calculations and sources (Dudek 2020b).

As presented in Table 17, the gain in sequestered carbon resulting from planting 35 trees would be approximately 25 MT CO_2. Including the sequestered carbon from planted trees, a conservative estimate of annual project-generated GHG emissions would be approximately 1,379 MT CO_2E per year as a result of project operation.

As shown previously, the total operational emissions for the project would be approximately 1,379 MT CO2e per year, including amortized construction emissions. As presented in Section 4, the efficiency metric threshold for the project's buildout year was 4.26 MT CO2e/person/year. Therefore, the project would have an efficiency metric of 2.76 MT CO2e/person/year (1,379 MT CO2e per year / 499 persons). Therefore, the project would not exceed the efficiency metric threshold for 2022 and thus would be consistent with the state's targets within SB 32 for 2030. Therefore, impacts would be less than significant.

b) ***Less-than-Significant Impact:*** The project would be consistent with applicable plans, policies and regulations for the reduction of GHG emissions (i.e. CARB's Scoping Plan and SANDAG's Regional Plan). This determination is based on, but not limited to, the following: (i) the project's various design attributes maximize the efficiency of the built environment by reducing the consumption of natural gas and increasing electrification; (ii) the project is located on an infill site along a major transportation

thoroughfare in the City of Carlsbad that provides multi-modal transit opportunities; and, (iii) the project would provide a needed mix of market-rate and affordable units, helping to improve the jobs/housing balance in the City of Carlsbad and provide increased residential opportunities within the City's jurisdictional boundaries. Therefore, the project's impacts on GHG emissions would be less than significant.

IX. HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or environment?	☐	☐	☒	☐
e) For a project within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires,?	☐	☐	☒	☐

This section is based on the Phase I Environmental Site Assessment prepared by GeoTek in July 2016 (GeoTek 2016b), which includes the background and methodologies regarding the Phase I Environmental Site Assessment. Further, an FPP was prepared by Dudek in July 2019 for the proposed project (Dudek 2019d). These technical memoranda and reports are hereby incorporated by reference.

a) ***Less-than-Significant Impact:*** Construction of the proposed project would require the transport of potentially hazardous materials including but not limited to fuels, lubricants, and various other liquids needed for operation of construction equipment. Proper BMPs, including those identified in the required Stormwater Quality Management Plan (SWQMP) (see Section IX, Hydrology and Water Quality) prepared for the proposed project, and hazardous materials handling protocols would be prepared and implemented to ensure safe storage, handling, transport, use, and disposal of all hazard materials during the construction phase of the proposed project. Construction would also adhere to any local standards set forth by the city, as well as state and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as the California Occupational Safety and Health

requirements, Hazardous Waste Control Act, California Accidental Release Prevention Program, and the California Health and Safety Code. Furthermore, all construction waste, including trash, litter, garbage, solid waste, petroleum products, and any other potentially hazardous materials would be removed and transported to a permitted waste facility for treatment, storage, or disposal. Use of these materials during construction for their intended purpose would not pose a significant risk to the public or the environment. Therefore, impacts related to routine transport, use, or disposal of hazardous materials during construction would be less than significant.

The project would involve development of residential land uses and associated landscaping and facilities. During operation of the proposed project, use of hazardous materials would primarily involve the private use of commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available substances. These substances are required to comply with relevant federal, state, and local health and safety laws, which are intended to minimize health risk to the public associated with hazardous materials. Therefore, impacts related to routine transport, use, or disposal of hazardous materials during operation would be less than significant.

b) ***Less-than-Significant Impact:*** As discussed in response (a), a variety of hazardous substances and wastes typical to standard construction projects would be stored and used on the project site during construction of the proposed project. Accidental spills, leaks, fires, explosions, or pressure releases involving hazardous materials represent a potential threat to human health and the environment. During both construction and operation of the proposed project, there is potential for release of hazardous materials related to storage, transport, use, and disposal from construction debris, landscaping, and commercial products. However, the proposed project would be required to adhere to federal, state, and local laws, such as the California Occupational Safety and Health requirements, Hazardous Waste Control Act, California Accidental Release Prevention Program, and the California Health and Safety Code, which are intended to minimize risk to public health associated with hazardous materials. Additionally, the project proposes residential development, which is not typically considered a source of substantial hazardous materials. Therefore, impacts would be less than significant.

c) ***No Impact:*** No schools are located within 0.25 miles of the project site. The nearest school, Poinsettia KinderCare, is located approximately 0.72 miles from the project site. No impact would occur.

d) ***Less-than-Significant Impact:*** The project site is not included on any hazardous waste site lists including the California Department of Toxic Substances Control's EnviroStor database, the State Water Resources Control Board's GeoTracker site, the Cortese list, the Superfund Site list, or other lists compiled pursuant to Section 65962.5 of the Government Code (CalEPA 2017; DTSC 2017; SWRCB 2017; EPA 2017a, 2017b). There are two EnviroStor facilities listed within a 0.5-mile distance of the project site: Kindercare Learning Centers (located approximately 0.72 miles west-southwest of the project site) and Pacific Rim Elementary School (located approximately 0.96 miles southwest of the project site). These facilities do not represent an environmental concern. Further, the site does not appear on the California Underground Storage Tanks list (SWRCB 2017), and no nearby facilities are listed on the list. Therefore, the project would not create a significant hazard to the public or the environment, and impacts would be less than significant.

e) ***Less-than-Significant Impact:*** The project site is located approximately 0.58 miles from the McClellan-Palomar Airport. The McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) was prepared according to Federal Aviation Administration requirements and adopted by the San Diego County Regional Airport Authority acting as the Airport Land Use Commission of San Diego. The ALUCP provides measures to minimize the public's exposure to excessive noise and safety hazards within areas around the airport and identifies areas

likely to be impacted by noise and flight activity created by aircraft operations at the airport. These impacted areas include the Airport Influence Area, the Clear Zone, and the Flight Activity Zone (City of Carlsbad 2015a). The McClellan-Palomar Airport Safety Zones, as described in the San Diego County ALUCP, are shown on Figure 10. According the San Diego County ALUCP, the northeastern portion of the project site is located within Zone 3 – Inner Turning Zone, while the remained of the project site is located within Zone 6 – Traffic Pattern Zone (San Diego ALUC 2011) (see Figure 11).

The McClellan-Palomar ALUCP outlines criteria applicable to proposed residential development in the vicinity of the airport. In Safety Zone 3, new residential development is limited to no more than 16 DU/AC or 130 people. As shown on Figure 11, approximately 1.72 acres of the western portion of the site overlaps with Zone 3. One proposed building, Building D, is in this area. As such, Zone 3 would include approximately seven DU/AC. According to the ALUCP, new residential development at a density of more than four DU/AC but no more than 13 DU/AC is conditionally compatible provided that the development complies with the clustering requirements indicated in Section 3.4.4(c)(4) of the McClellan-Palomar ALUCP, and outlined below. The proposed project would meet the following conditions, and thus, be compatible with ALUC's requirements in Zone 3 (San Diego ALUC 2011):

- 15 percent of the site meets the "open land" criteria (see Policy 3.4.9).
- One of the following exists within 1,650 feet of the geographic center of the site: a four-lane divided highway, a golf course, or other public land qualifying as "open land" in accordance with Policy 3.4.9.
- Utility lines on and along the perimeter of the site are underground or will be placed underground in conjunction with the proposed project.
- Development is clustered if required in accordance with response (f). The clustering of residential development must not result in the density within any single 1-acre area exceeding 20 DU per net acre.

As shown on Figure 10, the remainder of the site is in Safety Zone 6 – Traffic Pattern Zone. Within Safety Zone 6, new residential development is considered compatible, and there is no limit on an acceptable density (San Diego ALUC 2011). Therefore, impacts would be less than significant.

f) ***Less-than-Significant Impact:*** The proposed project has been designed to satisfy the emergency requirements of the fire and police departments. The FPP ensures the proposed project would comply with the city's emergency response in relation to fire. Site ingress/egress will comply with the requirements of the Carlsbad Fire Department (CFD). The primary access to the project site will be through an existing private street (West Oaks Way) originating at the existing Palomar Oaks Way, approximately 200 feet south of its intersection with Palomar Airport Road. Palomar Oaks Way is a 52 feet wide (curb to curb) roadway with two lanes demarcated on the northbound side and one southbound lane. Proposed private street West Oaks Way would be 32 feet unobstructed width. Private street "A" in the southeastern portion of the project (extension of Palomar Oaks Way) would be 28 feet wide with no parking along the 130 feet south of its intersection with West Oaks Way and would have perpendicular and parallel parking on both sides beyond that point. The western end of West Oaks Way is the next project ingress/egress occurring along Palomar Airport Road where a median cut out will be provided to allow travel in both directions along Palomar Airport Road. These two ingress/egress points occur along Palomar Airport Road with the eastern ingress/egress point at Palomar Oaks Way being separated from the western ingress/egress point by approximately 0.32 miles (1,700 feet). No traffic-calming measures (speed bumps, speed humps, and speed control dips), which may interfere with emergency apparatus, will be installed.

The roadways within the proposed development will comply with the city Public Works roadway standards. To ensure that the roadways continue to meet requirements, road maintenance within the private portions of the development will be provided by an HOA or similar funded entity. The entity will assess maintenance dues monthly, provide reserve funding, and maintain the site's roads. Impacts would be less than significant.

g) ***Less-than-Significant Impact:*** According to Figure 6-10, Structure Fire/Wildfire Threat in the General Plan (City of Carlsbad 2015a), the northwestern portion of the project site is located in a high threat Fire Hazard Severity Zone, and the middle of the project site is located in a moderate threat Fire Hazard Severity Zone. The rest of the project site is located within an urban environment. The project's FPP was submitted in compliance with the requirements of the CFD Fire Code. As described in the FPP, the project site is located within an area that can be considered a wildland urban interface but is not statutorily designated as a local or state responsibility area "very high fire hazard severity zone." The recommendations provided in the FPP have been designed specifically for the proposed project and the wildland urban interface zone at the project site.

The FPP determined that the wildland fire risk in the vicinity of the project site has been analyzed and it has been determined that wildfires may occur in wildland areas to the south, west, and north of the project site but would not be significantly increased in frequency, duration, or size with the construction of the project. The project would include conversion of existing vegetation to maintained urban development with designated landscaping and fuel modification areas.

The types of potential ignition sources that currently exist in the area include vehicle and roadway, electrical transmission line, and machinery associated with various land uses in the vicinity, as well as off-site residential neighborhoods. The project would introduce potential ignition sources but would also include conversion of fuels to lower flammability landscape and include better access throughout the site, managed and maintained landscapes, higher site awareness/monitoring, and generally a reduction in the receptiveness of the areas landscape to ignition. Fires from off site would not have continuous fuels across this site, and therefore, would be expected to burn around and/or over the site through spotting. Burning vegetation embers may land on project structures but are not likely to result in ignition based on ember decay rates and the types of non-combustible and ignition resistant materials that will be used on site.

The project shall comply with ignition resistant fire and building codes. Compliance with these codes will include a layered fire protection system designed to current codes and inclusive of site-specific measures. This will result in a project that is less susceptible to wildfire than surrounding landscapes and would facilitate fire fighter and medical aid response. Further, modern infrastructure will be provided along with implementation for the latest ignition resistant construction methods and materials. All structures are required to include interior sprinklers consistent with Carlsbad Fire and Building Codes. Fuel modification areas receive fuel reduction treatments initially, and then maintenance over time includes removing all dead and dying materials and maintaining appropriate horizontal and vertical spacing. In addition, plants that establish or are introduced to the FMZ that are not on the approved plant list will be removed by the HOA and certified by a third-party FMZ inspection.

By implementing the recommendations and project-specific requirements outlined above, the project would not expose people or structures to a significant risk, injury, or death involving wildland fires. As such, impacts would be less than significant.

X. HYDROLOGY AND WATER QUALITY Would the project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with ground water recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner, which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii. create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, rick release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

This section is based on the SWQMP prepared by Fuscoe Engineering in October 2018 (Fuscoe Engineering 2018) and the Drainage Study prepared by Fuscoe Engineering in January 2019 (Fuscoe Engineering 2019). These technical memoranda and reports are hereby incorporated by reference.

a) ***Less-than-Significant Impact***: Construction activities associated with the proposed project could result in wind and water erosion of the disturbed area leading to sediment discharges. Similarly, as described in Section VIII, Hazards and Hazardous Materials, fuels, oils, lubricants, and other hazardous substances used during construction could be released and impact water quality. The proposed project is required to comply with the National Pollutant Discharge Elimination System State Water Resources Control Board Construction General Permit Order No. 2009-0009-DWQ for stormwater discharges and general construction activities and the Municipal Separate Storm Sewer System (MS4) San Diego Region Water Quality Control Board Order No. R9-2013-0001 for post-construction stormwater discharges. In compliance with the MS4 permit, an SWQMP was prepared for the proposed project, which specifies BMPs that would be implemented during construction and operation to minimize impacts to water quality. BMPs included would involve source control measures, such as prevention of illicit discharges into the MS4 and storm drain stenciling or signage, runoff collection, and partial retention by biofiltration. Further, the Drainage Study prepared for the proposed project outlines water quality treatment BMPs, such as biofiltration with partial retention, that

would be implemented as part of the proposed project (Fuscoe Engineering 2019). With implementation of these BMPs, impacts to water quality or waste discharge requirements would be less than significant.

b) ***Less-than-Significant Impact:*** As described in the geotechnical report, groundwater was encountered in almost all of the exploratory excavations of the project site, at depths as shallow as seven feet belowground surface. The groundwater encountered at the site is generally shallowest toward the western portions of the site. Perched groundwater or localized seepage can occur due to variations in rainfall, irrigation practices, and other factors that were not evident at the time of this investigation (GeoTek 2017). However, the proposed project site is not a source of groundwater, and the proposed project would not use groundwater during construction or operation. The City currently does not depend on groundwater sources for its water supplies, according to the city's Urban Water Management Plan (CMWD 2016). Further, a large portion of the project site would remain undeveloped. This would allow for groundwater recharge and infiltration. As such, impacts to groundwater supplies would be less than significant.

c) i. ***Less-than-Significant Impact:*** The project site consists of existing undeveloped pads that lie adjacent to West Oaks Way. The site is bounded to the north by Encinas Creek and to the south by natural slopes that rise a couple of hundred feet to a residential neighborhood. Due to the site's location at the base of a large natural slope, the project receives runoff from off-site areas. This runoff is received by brow ditches along the base of this slope, and then conveyed through three storm drain systems that run from south to north and outlet to Encinas Creek. An existing inlet that collects runoff is present at the easternmost pad of the project site. The rest of the pads sheet flow to West Oaks Way, which has two pairs of curb inlets that collet runoff and discharge to the creek. Encinas Creek leaves the site from the northwest corner of the project and continues westerly to the Pacific Ocean, located approximately two miles away. The majority of that length is through natural channels, although the westernmost portion of the route goes through a combination of box culverts and concrete lined channels.

With implementation of the proposed project, the flow patterns on site will largely stay the same. The three existing storm drain systems that run north–south will be reused and/or added to as part of the proposed project. Although the project would increase the amount of impervious surfaces at the site compared to existing conditions, this increase would not be substantial. Further, the project would implement eight biofiltration BMPs, which would each consist of surface ponding, storage within soil media void space, and an underground detention vaults. As such, the project would not substantially alter the existing drainage pattern such that substantial erosion would occur on or off site. Therefore, impacts would be less than significant.

c) ii. ***Less-than-Significant Impact:*** With implementation of the proposed project, the flow patterns of the site will largely stay the same. The proposed project would implement eight biofiltration BMPs, which would each consist of surface ponding, storage within soil media void space, and an underground detention vaults. Detention basin analysis was conducted for each of the detention vaults. The study found that the outflows for 100-year storm events will be reduced by 23 cubic feet per second, offsetting the 22 cubic feet per second increase that would have occurred without detention. The eight biofiltration BMPs would offset the increase of 22 cubic feet per second. As such, the project would not substantially alter the existing drainage patterns such that it would increase flooding on or off site. Impacts would be less than significant.

c) iii. ***Less-than-Significant Impact:*** Refer to responses above. An SWQMP was prepared for the proposed project, which specifies the BMPs that would be implemented during construction to minimize

impacts to water quality. Further, the Drainage Study that was prepared for the proposed project concluded that, during operation, the flow patterns of the site will largely stay the same with implementation of the proposed project (Fuscoe Engineering 2019). Although the project would increase the amount of impervious surface at the site compared to existing conditions, this increase would not be significant. Further, additional stormwater facilities and eight BMPs, which would each consist of surface ponding, storage within soil media void space, and an underground detention vaults, would be implemented as part of the project to ensure runoff from large storm events would not exceed the capacity of the stormwater drainage system. Stormwater facilities proposed as part of the project will be maintained by the project's HOA. As such, impacts would be less than significant.

c) iv. ***Less-than-Significant Impact:*** According to the Federal Emergency Management Agency, the project site is located within Flood Zone X, which is defined as an area of minimal flood hazards, typically above the 500-year flood level (FEMA 2012). Although this project is not located within a flood zone per FEMA, it is within a local 100-year flood zone per the project's drainage study (Fuscoe Engineering 2019). The project's proposed biofiltration basins and detention vaults accommodate for detention of a 100-year storm event. The project would not impede or redirect flood flows. As outlined on Figure 6-2 in the General Plan (City of Carlsbad 2015a), the project site is not located within a dam inundation area. Refer to the responses above regarding proposed stormwater facilities per the Drainage Study. Impacts would be less than significant.

d) ***No Impact:*** Refer to response (c.iv) above. The proposed project would not be located within a 100-year flood hazard area. The project site is located approximately two miles inland from the Pacific Ocean. According to the California Department of Conservation, the project site is not located within a mapped area of tsunami inundation (CDC 2016). Further, the project site is not located near a large standing body of water. The closest bodies of water are Batiquitos Lagoon, located approximately 2.1 miles to the southwest, and Agua Hedionda, located approximately 2.1 miles to the northwest. Thus, inundation by seiche (or standing wave) is considered negligible. As such, no impact would occur.

e) ***Less-than-Significant Impact:*** A SWQMP has been prepared for the proposed project and incorporated into project design, as discussed previously. The SWQMP has been prepared consistent with the requirements of the city's BMP Design Manual, consistent with the requirements of the San Diego Regional Water Quality Control Board Order No. R9-2013-0001 (Regional MS4 Permit). The Carlsbad Watershed Management Area Water Quality Improvement Plan was prepared by the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, Vista, and the County of San Diego towards improving water quality per the Regional MS4 Permit (City of Carlsbad, et al. 2016). Provision of a SWQMP, and the water quality improvements contained therein, per the requirements of the Regional MS4 Permit would ensure that the project would not conflict of obstruct with the applicable Water Quality Improvement Plan. Additionally, as described above, the proposed project would not interfere with groundwater recharge or use. Therefore, impacts would be less than significant.

XI. LAND USE AND PLANNING **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒

XI. LAND USE AND PLANNING Would the project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

a) ***No Impact:*** The proposed project would be located entirely within the 12.53-acre project site, which is currently vacant. None of the proposed project components would potentially block or impede movements between surrounding established communities. No impact would occur.

b) ***Less-than-Significant Impact:*** The project site is currently zoned Planned Industrial (P-M) and Open Space (OS) and designated Planned Industrial (PI) and Open Space (OS) in the General Plan (City of Carlsbad 2015a). The proposed project requires a zoning change from Planned Industrial (P-M) to Residential Density-Multiple (RD-M). Further, the proposed project would require a General Plan land use change from Planned Industrial (PI) to Residential (R-30).

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The project site is surrounded by a variety of land uses, including open space and residential to the south, open space to the northwest, and planned industrial uses to the east. As such, the project's proposed uses would be compatible with nearby land uses. The portions of the site that are currently zoned and have a land use designation of Open Space will remain as open space under the proposed project. The proposed open space lot consists of 4.26 acres and is located on the northwestern portion of the site. To facilitate implementation of the proposed project, the applicant has filed a request for the General Plan Amendment, a Zoning Amendment, and approval of a Tentative Tract Map for the project site. The project would be required to comply with the goals and policies of the General Plan and the city's zoning codes.

The Growth Management Chapter of the city's Zoning Ordinance is intended to ensure that development is consistent with the General Plan and that adequate public facilities are provided concurrent with growth within the city. Pursuant to the city's Growth Management Program (GMP) and Chapter 21.90 of the Carlsbad Municipal Code, the city is organized into 25 zones; the project is located in Zone 5. The city's GMP requires the preparation of Local Facilities Management Plans (LFMPs) for each of the 25 management zone. The LFMPs implement the provisions of the city's GMP by phasing all development and public facility needs in accordance with the GMP performance standards.

The proposed land use change would help accommodate the disproportionality between residential and non-residential development within the city and provide housing closer to the job centers for the City of Carlsbad, as well as those jobs specifically in Zone 5. The proposed land use change implements the intentions of the Growth Management Ordinance in Carlsbad Municipal Code (CMC) Section 21.90.090(a) which states the city-wide facilities and improvement plan "shall encourage infill development and reduce the growth-inducing impact" of outlying undeveloped areas. The proposed site is considered infill development with all facilities in close proximity. CMC Section 21.90.130(b) of the Growth Management Ordinance also goes on to state "The city-wide facilities and improvements plan and the local facilities management plans are guides to ensure that

no development occurs unless adequate facilities or improvements will be available to meet demands created by development. The Carlsbad City Council may initiate an amendment to any of the plans at any time if in its discretion it determines that an amendment is necessary to ensure adequate facilities and improvements." Based on these sections of the Ordinance, the clear intent of Growth Management is to ensure that appropriate public facilities are available to serve development.

When Zone 5 was originally prepared it was estimated that there would be 20,870,878 square feet of Industrial/Office and 1,325,421 square feet of Commercial and zero residential development. As can be seen in the latest City of Carlsbad Growth Projections (dated March 23, 2018) for Zone 5, the projected buildout scenario is significantly less with 7,529,997 square feet of Industrial/Office, 2,498,020 square feet of Commercial and 467 residential units. Therefore, with the proposed project, there would be no increase in the development intensity within Zone 5 as a part of the proposed land use change. When reviewing the proposed land use change on a zone-wide basis in association with the existing and proposed future development, the overall intensity in development within Zone 5 has significantly decreased over time.

Refer to Section XV, Public Services, and Section XIX, Utilities and Service Systems, for additional discussion on potential impact onto public facilities. As discussed in those sections, the proposed project would result in less-than-significant impacts due to adequate existing infrastructure, through payment of development impact fees, and provision of necessary infrastructure to adequately serve the project consistent with the Zone 5 LFMP.

A road facility has been identified within LFMP Zone 5 that does not meet current GMP performance standards. If the performance standards are not met and the Carlsbad City Council adopts an ordinance prohibiting development in LFMP Zone 5, then no development permits or building permits shall be issued within the zone until the performance standard is met or arrangements satisfactory to the Carlsbad City Council guaranteeing the facilities and improvements will be made. The Carlsbad City Council may choose to exempt this road segment, approve a project to improve the segment to an acceptable performance level, or other alternative. In the event the Carlsbad City Council exempts the road segment, the project will be required to participate in Transportation Demand Management (TDM) and Transportation System Management (TSM). In the event the Carlsbad City Council opts for a road improvement project or other solution, the developer will be required to pay their fair share of the improvements or otherwise meet the terms of the solution determined by the Carlsbad City Council.

The General Plan guides the City's evolution toward an increasingly balanced community with a full range of land uses, housing for all income groups and lifestyles, and places for businesses large and small. The General Plan contains an employment strategy for the McClellan-Palomar Airport area that would result in continued growth as the employment center of the city, with residential uses in appropriate locations, enabling workers to live close to jobs. The proposed project would place housing near employment centers, allowing workers to live close to the city's employment core. The General Plan also seeks to establish a more knitted community, which in turn would foster social connections, and promotes a greater mix and integration of uses in different parts of the community to promote walkability and accessibility (City of Carlsbad 2015a). The proposed project would place residential development in an area with existing commercial and employment land uses. Thus, the project would contribute to achieving community connectedness and integration of a greater mix of land uses by placing residential uses in an area with existing commercial and employment centers. Further, the General Plan states that, if clustering is used to enhance open space conservation and

reduce the need for grading, the city may permit housing types other than those specified, and therefore, subject to specific review requirements (City of Carlsbad 2015a). The proposed project would involve conservation of 4.26 acres of a site that has already been graded. As such, the project would be subject to a specific review during the entitlement process.

Lastly, the city's General Plan Housing Element states that the city's share of the Regional Housing Needs Assessment developed by SANDAG is 4,999 units, which is approximately three percent of the overall regional housing need (City of Carlsbad 2015a). Per the Housing Element, the housing production from January 2010 through April 2016 has reached a total of 1,927 units completed or under construction. There are 2,339 units remaining to meeting the Regional Housing Needs Assessment that have not already been constructed of approved. As stated in Goal 2-P.6 of the Land Use and Community Design Element of the General Plan, the provision of lower- and moderate-income housing to meet the objectives of the Housing Element is encouraged (City of Carlsbad 2015a). The project would help meet the city's housing need and provide for low-income housing that will accomplish Goal 2-P.6 of the General Plan, by providing 42 affordable housing units on site. Because the project supports the overarching guiding principles of the General Plan, the project would be consistent with the General Plan. Further, the project site is subject to compliance with the McClellan-Palomar ALUCP. As discussed in Section VIII, response (e), the proposed project would comply with the ALUCP. With adoption of all required amendments, impacts would be less than significant.

California Coastal Commission

The project site is located between a vegetated hillside containing coastal sage scrub (CSS) and a riparian corridor (Encinas Creek). A 50-foot buffer and protective fencing will prevent adverse impacts from pet intrusion and human disturbance to adjacent habitat. A portion of the proposed buffer extends into West Oaks Way. The public road is a pre-existing condition from a previously approved subdivision project. The road contains regional utilities and cannot be relocated to accommodate the full 50-foot buffer. Nonetheless, the proposed buffer is deemed adequate to provide to protect the adjacent habitat.

The project involves 0.08 acre of unavoidable impact to riparian habitat and 0.01 acre of impact to open water to construct a secondary vehicular access. Pursuant to Carlsbad Fire Department requirements, any new development (regardless of land use or scale) would require a secondary access road. The secondary access road would only to be used as an Emergency Vehicle Access Road (EVA) and not as a full time secondary access road. As such, potential impacts to Encinas Creek from daily traffic use would be minimized.

Due to the identified public safety concern and Fire Department requirements, removal of the secondary access road from the project to avoid wetland impacts is not feasible. Various design alternatives were considered for the secondary access road during project planning and design. The proposed bridge design minimizes direct impacts to the extent practicable. The proposed secondary access road alignment is the least environmentally damaging feasible alternative. All mitigation for impacts to the riparian habitat will occur on site. A 3:1 mitigation ratio is proposed; refer to Section IV, Biological Resources, for a full discussion. As such, wetlands impacts resulting from construction of the secondary access road are allowable as an incidental public service purpose and the project is consistent with Section 30233 of the Coastal Act.

Section 30250 of the Coastal Act requires new development to be concentrated in existing developed areas where it can be accommodated without adverse impacts to coastal resources. Section 30253(d)

requires new development to minimize energy consumption and vehicle miles traveled. Concentrating development in existing developed areas provides more opportunities for people to live near places they work and recreate, such as the beach, and, thereby, reduces impacts to coastal resources. Impacts to roads and vehicle miles traveled would be reduced by having a more dense stock of housing located closer to employment and recreational opportunities within the Carlsbad coastal zone. Also, by having a higher density residential project in an existing developed area, it places more people in a single location so that public transit service is facilitated, which then again aids in reducing the number of cars on streets and thus reduces impacts to coastal resources and public access. Siting dense development in urbanized areas reduces urban sprawl, and furthermore reduces the pressure to extend development into adjacent undeveloped areas, which may contain sensitive coastal resources. As such, the project is consistent with Sections 30250 and 30253(d) of the Coastal Act.

The Coastal Act prioritizes the protection of public access to the coast and, in Section 30252, specifically identifies adequate parking as an important component of new development. The Coastal Commission enforces minimum onsite parking standards for new development in order to protect public beach parking for members of the public who wish to access the coast. The applicant has proposed 373 parking spaces for the proposed 192 unit residential development. Public transportation options are readily available within the project vicinity. Bus stops for Route 445, serving the Poinsettia COASTER station and Palomar College, are located at the intersection of Palomar Airport Road / Palomar Oaks Way. The project would also create connectivity to a bike path along Palomar Airport Road, providing an additional nonautomotive transportation option. Therefore, the proposed project is consistent with Sections 30210, 30211, and 30252 of the Coastal Act and impacts would be less than significant.

XII. MINERAL RESOURCES **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

a, b) ***No Impact***: The City is located in the Western San Diego County Production-Consumption (P-C) Zone according to the California Mineral Land Classification System. However, the project site is not located within a Mineral Resource Zone as defined and classified by the Surface Mining and Reclamation Act. The General Plan does not identity any zones of locally important mineral resources; therefore, mineral resources are within the project site, and no evidence exists indicating that there could be mineral resources in the project vicinity (City of Carlsbad 2015a). Additionally, the project site is located within an urbanized area of the city. Mineral extraction land uses would be incompatible with the existing and planned land uses within and around the project site. Therefore, no impact to locally important mineral resources would occur.

XIII. NOISE Would the project result in:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the poject in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundbourne vibration or groundbourne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

a) ***Less-than-Significant Impact With Mitigation:***

Traffic Noise

An Environmental Noise Assessment for the project was prepared by Dudek in June 2020 (Dudek 2020c). Technical memoranda and reports are hereby incorporated by reference. The assessment estimates and evaluates the potential noise and vibration impacts associated with implementation of the project relative to the city significance thresholds for construction and operation (Dudek 2020c). Noise measurements were conducted at various locations on and off site (Figure 12, Noise Measurement and Modeling Locations). The main source of traffic noise is Palomar Airport Road directly north of the project site. The project would generate a net traffic volume increase over existing volumes. Table 18 shows the calculated Average Daily Trip (ADT) numbers for Existing, Existing Plus Project, Existing Plus Cumulative, Existing Plus Cumulative Plus Project, Year 2035, and Year 2035 Plus Project. The average peak-hour traffic was calculated to be 7.4 percent of ADT in the existing case. This percentage was used to calculate expected ADT values from the peak-hour traffic numbers contained in the traffic report (LLG 2020).

Table 18

Palomar Road Average Daily Traffic Scenarios

Street	Existing	Existing + Project	Existing + Cumulative	Existing + Cumulative + Project	Year 2035	Year 2035 + Project
Palomar Airport Road	44,494	45,646	45,941	46,742	50,772	51,573

Source: LLG 2020.

The ADT values discussed previously were used with the calibrated Computer Aided Noise Abatement (CadnA) traffic noise model to calculate existing and expected noise levels at the proposed building facades.

A local road default traffic hourly distribution was used for these scenarios. This default hourly percentage for 6:00 a.m. to 7:00 p.m. is approximately 6.4 percent of the ADT. For evening hours between 7:00 p.m. and 10:00 p.m. hourly traffic is assumed to be 2.9 percent of ADT. For nighttime hour from 10:00 p.m. to

6:00 a.m., one percent of ADT is the assumed hourly traffic. These percentages are rounded. CadnA uses additional digits of precision (more decimal places) during model simulations/calculations. The percentage of heavier vehicles (medium trucks, heavy trucks, and buses) is assumed to be 10 percent.

Table 19 shows the results of the model runs for the balcony areas facing the road. Under the "Receiver" column, the M numbers relate to the positions of the modeled receivers shown on Figure 12. The "L" indicates the level with L1 indicating the first floor, L2 indicating the second floor, and L3 indicating the third floor. The receiver locations were placed approximately three feet above the floor level to model a seated resident on the balconies, based on elevations derived from the project plan.

Table 19

Traffic Noise Model Results at Representative Receivers

	Traffic Noise (CNEL dBA)					
Receiver	*Existing*	*Existing + Project*	*Existing + Cumulative*	*Existing + Cumulative + Project*	*Year 2035*	*Year 2035 + Project*
M1 L1	66	66	66	67	67	67
M1 L2	67	67	67	67	67	67
M1 L3	67	67	67	67	67	67
M2 L1	67	67	67	67	67	67
M2 L2	67	67	67	67	67	67
M2 L3	67	67	67	67	67	68
M2-Alt L1	66	67	67	67	67	67
M2-Alt L2	67	67	67	67	67	67
M2-Alt L3	67	67	67	67	67	67
M3 L1	66	66	66	66	67	67
M3 L2	66	66	66	67	67	67
M3 L3	66	66	66	66	67	67
M3-Alt L1	66	66	66	66	67	67
M3-Alt L2	66	66	66	66	67	67
M3-Alt L3	66	67	67	67	67	67
M4 L1	66	66	66	66	67	67
M4 L2	66	67	67	67	67	67
M4 L3	66	66	67	67	67	67
M4-Alt L1	66	66	66	66	67	67
M4-Alt L2	66	66	66	67	67	67
M5 L1	64	64	64	64	64	64
M5 L2	64	64	64	64	65	65
M5 L3	64	65	65	65	65	65
M5-Alt L1	63	63	63	63	64	64
M5-Alt L2	64	64	64	64	64	64
M5-Alt L3	64	64	64	64	65	65
M6 L1	64	64	64	64	64	64
M6 L2	64	64	64	64	65	65
M6 L3	64	64	64	64	65	65
M6-Alt L1	64	64	64	64	64	64
M6-Alt L2	64	64	64	64	64	64
M6-Alt L3	63	64	64	64	64	64

Table 19

Traffic Noise Model Results at Representative Receivers

Receiver	Traffic Noise (CNEL dBA)					
	Existing	*Existing + Project*	*Existing + Cumulative*	*Existing + Cumulative + Project*	*Year 2035*	*Year 2035 + Project*
M7 L1	62	62	62	62	63	63
M7 L2	63	63	63	63	63	63
M7 L3	63	63	63	63	64	64
M7-Alt L1	63	63	63	63	63	63
M7-Alt L2	63	63	63	63	64	64
M7-Alt L3	63	63	63	64	64	64
M8 L1	63	63	63	63	63	63
M8 L2	63	63	63	63	64	64
M8 L3	63	63	63	63	64	64
M9 L1	63	63	63	63	63	63
M9 L2	63	63	63	63	63	63
M9 L3	63	63	63	63	63	63
M10 L1	63	63	63	63	63	63
M10 L2	63	63	63	63	63	64
M10 L3	63	63	63	63	63	63
Pool/Club House	*65*	*65*	*65*	*65*	*65*	*65*

Notes: CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel

Existing exterior noise exposure levels due to traffic on Palomar Airport Road exceed 65 dBA CNEL at M1, M2, M3, M4, and M5 on the first, second, and third floors. All of these receivers have calculated noise levels below 70 dBA CNEL, and therefore, remain in the "conditionally acceptable" range from the land use compatibility table. To address the conditional nature of the noise levels, Mitigation Measures NOI-2 and NOI-5 are included to reduce operational noise to a less-than-significant level.

Further modeling was conducted to estimate the noise levels on the balconies. This modeling focused on the added noise reduction due to acoustically solid barriers (i.e., free of holes, gaps, or cracks) at the open end of the balconies. The modeled balcony receivers were assumed to be seated; thus, the receiver elevations were modeled at a height of approximately three feet above the first, second, and third floor levels. Barriers were assumed to extend four feet up from the floors on these levels. A conceptual design of the noise barriers is shown on Figure 13.

Applying standard acoustical barrier calculations to the seated receiver, five dBA or more of additional noise reduction is expected. For the worst case modeled receiver at M2 L3 in the Year 2035 with project traffic scenario, the calculated CNEL is 68 dBA. With the conservative noise reduction of five dBA applied due to the balcony barrier, the expected traffic noise level for a seated receiver is about 63 dBA CNEL. Thus the outdoor seated areas would have noise levels below 65 dBA CNEL and thus are allowable for residential uses in a mixed-use project as stated in note 4 of Table 5-2 of the General Plan Noise Element (City of Carlsbad 2015a).

With implementation of Mitigation Measures NOI-2 and NOI-5, the noise impacts from traffic can be considered less than significant for the planned outdoor use areas reviewed and the balconies of the residential units.

Another planned outdoor living space is the pool area adjacent to the Club House. At this location, the noise from Palomar Airport Road are acceptable. Therefore, no exterior traffic noise mitigation is required in the Pool and Club House area.

Interior spaces are a concern because of the elevated exterior noise levels identified in the traffic noise modelling. To comply with the City of Carlsbad's and state's 45-decibel (dB) Community Noise Equivalent Level (CNEL) interior noise standard, the residential dwelling units would most likely require mechanical ventilation system or air conditioning system and possibly sound-rated windows. A review of the construction plans for the buildings would be required to assure the interior living spaces do not have noise levels that exceed 45 dBA CNEL, which could result from the elevated exterior noise levels (Mitigation Measure NOI-1).

Regarding traffic-noise-level-associated roadways to which the project would contribute trips, it is noteworthy that the noise level increases would not exceed two dBA when the project trips are added to the analyzed future traffic condition scenarios. This is considered a less-than-significant noise increase due to the project. Since less than a two-decibel (dB) increase in traffic noise has been calculated on roadways immediately adjacent to the project site, less than a two-dB increase in traffic noise due to the project would be expected at other residential receptors located along roads farther from the project site (i.e., roads with smaller proportionate traffic contributions by the project). Therefore project-related traffic noise level increase impacts on nearby residential receptors are expected to be less than significant.

McClellan-Palomar Airport Noise

The project site is located on average approximately 2,400 feet from the runway edge of McClellan-Palomar Airport (Dudek 2020c). The northern tip of the site is located within the 65 dBA CNEL contour (levels within this contour range from 61 to 65 dBA CNEL); no structures are located within the 65 dBA CNEL contour. The central two-thirds of the site is located within the 60 dBA CNEL contour (noise levels here would range from 56 to 60 dBA CNEL). The majority of the proposed structures would be located in the 60 dBA CNEL contour. The southern approximately one-third of the site and structures would be located in the 55 dBA CNEL contour. The Noise Technical Report has found that the site is acceptable for the residential development, after reviewing both traffic and airport noise levels for the site. The report further points out that certain special design considerations, included as Mitigation Measures NOI-1 and NOI-2, must be made in order to assure the future residential living space noise levels are acceptable. Impacts would be less than significant (Dudek 2020c).

Construction Noise

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels will vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Construction is expected to include site preparation, grading, trenching, building construction, paving, and architectural coating. Construction equipment with substantially higher noise-generation characteristics (e.g., pile drivers, rock drills, and blasting equipment) would not be necessary.

The construction vehicle assemblage would include standard equipment such as dozers, trackers loaders, backhoes, excavators, graders, scrapers, trenchers, lifts, paving equipment, rollers, compressors, and miscellaneous trucks. Specified and measured noise level ranges for various pieces of construction equipment at a distance of 50 feet are presented in Table 20. The specified noise levels at 50 feet for typical equipment would range up to 85 dBA for the type of equipment normally used for this type of project. The construction equipment is expected to be spread out over the entire site, with some equipment operating along the perimeter of the site while the rest of the equipment may be located several hundred feet further away from the noise sensitive receptors.

Table 20

Typical Construction Equipment Noise Levels

CA/T Noise Emission Reference Levels and Usage Factors					
Equipment Description	*Impact Device?*	*Acoustical Use Factor (%)*	*Spec 721.560 L_{max} @ 50 ft (dBA, slow)*	*Actual Measured L_{max} @ 50 ft (dBA, slow) samples averaged*	*Number of Actual Data Samples (Count)*
All other equipment > 5 horsepower	No	50	85	N/A	0
Auger drill rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Dump truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flatbed truck	No	40	84	74	4
Front-end loader	No	40	80	79	96
Generator	No	50	82	81	19
Grader	No	40	85	N/A	0
Man lift	No	20	85	75	23
Pickup truck	No	40	55	75	1
Roller	No	20	85	80	16
Scraper	No	40	85	84	12
Tractor	No	40	84	N/A	0

Source: FHWA 2006.
Notes: dBA = A-weighted decibel; L_{max} = maximum sound level

Construction would occur during the city's allowable hours of construction activities. The city's Municipal Code states that construction can occur Monday through Friday from 7:00 a.m. to 6:00 p.m. and Saturday from 8:00 a.m. to 6:00 p.m. (City of Carlsbad 2017b). Adherence to these construction work hours is included as Mitigation Measure NOI-3. The noise levels generated by construction equipment would vary greatly depending on factors such as the type and specific model of the equipment, the operation being performed, and the condition of the equipment. The average sound level of the construction activity also depends on the amount of time that the equipment operates and the intensity of the construction during periods of activity.

The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction phase, distance between the noise source and receiver, and any intervening structures. Noise from construction equipment generally exhibits point source acoustical characteristics. A point source sound is attenuated (reduced) at a rate of six decibels per doubling of distance from the source for "hard site" conditions and at 7.5 decibels per doubling of distance for "soft site" conditions. These rules apply to the propagation of sound waves with no obstacles between source and receivers, such as topography (ridges or berms) or structures.

Table 21 shows the calculated noise levels at the property line of the closest noise-sensitive receptor (i.e., the residential property lines to the southwest of the project site along Sapphire Drive) during construction phases for this project. Construction phase noise levels indicated in Table 21 represent worst-case conditions.

Table 21

Outdoor Construction Noise Levels by Phase

Construction Phase	L_{max} (dBA)	L_{eq} (dBA)
Nearest Residential Receptor (500 Feet from Project Boundary)		
Site preparation	63	67
Grading	64	67
Trenching	64	64
Building construction	63	64
Paving	64	64
Architectural coatings	57	53
Typical Group of Residential Receptors (550 Feet from Project Center)		
Site preparation	63	67
Grading	64	67
Trenching	64	64
Building construction	63	64
Paving	64	65
Architectural coatings	57	53

Notes: dBA = A-weighted decibel; L_{eq} = equivalent sound level over a given period; L_{max} = maximum sound level

As Table 21 shows, the highest noise levels are expected to occur during the site preparation and grading phases. Construction-related noise levels could reach up to 67 dBA L_{eq} at residential property lines to the south. The City's Municipal Code provides hours for construction but does not explicitly exempt construction from noise regulations. The City's Municipal Code specifies 65 dBA day-night average sound level as the maximum allowable exterior noise level (City of Carlsbad 2017b). With the construction operations limited to the hours between 7:00 a.m. and 6:00 p.m. during weekdays and 8:00 a.m. to 6:00 p.m. on Saturdays, it is very likely that the construction noise day-night average sound level will remain below 65 dBA at the residences to the south. Despite not exceeding the city's Municipal Code maximum noise level, the construction operations still have a high likelihood of producing annoyance for the nearby residences. To reduce the likelihood of nuisance noise during construction, Mitigation Measures NOI-3 and NOI-4 are incorporated into project construction. Impacts would be less than significant.

<u>Construction Vibration Impact to Off-Site Residences</u>

The heavier pieces of construction equipment used at this site would include dozers, graders, and pavers. The anticipated construction equipment would generate a peak particle velocity of approximately 0.09 inches/second or less at a distance of 25 feet (Dudek 2020c). Information from the California Department of Transportation indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches/second begin to annoy people. Groundborne vibration is typically attenuated over short distances. The closest existing residences would be approximately 500 feet or more from the construction area. At these distances, the peak particle velocity from construction would be well below 0.1 inches/second and would also be below the threshold of perceptibility. Therefore, impacts related to vibration from construction activities would be less than significant.

Mitigation Measures

NOI-1 Interior Noise Study

Prior to the approval of building permits, the applicant shall submit an interior noise study for approval by the city Building Department. The interior noise study would ensure compliance with the city and state's 45 decibel (dB) Community Noise Equivalent Level (CNEL) noise standard.

NOI-2 Elevated Noise Environment Disclaimer

Prior to sale, lease or rental of any residential structure or portion thereof located in the Airport Influence Area (AIA), the applicant/owner shall provide prospective buyers and future occupants with the following notice:

This property is currently located in an urban area that periodically and regularly experiences elevated noise levels. Potential sources of this noise may be automobile traffic, flying aircraft, industrial/commercial uses, and general human activity in an urban environment. You may wish to consider what noise level annoyances, if any, are associated with the property before you complete your purchase and/or rental agreement, and determine whether they are acceptable to you.

NOI-3 Limit Construction Work Hours

a. Noise-generating construction activities (i.e., operation of equipment, performing any construction, or the grading or excavation of land) associated with the project shall not occur in the period before 7:00 a.m. or after 6:00 p.m. on weekdays or before 8:00 a.m. or after 6:00 p.m. on Saturday. Noise-generating construction activities associated with the project are prohibited on Sundays and federal holidays.
b. Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary. In the event the city and/or construction contractor receives a complaint, appropriate corrective actions shall be implemented, and a report of the action shall be provided to the reporting party.

NOI-4 Measures to Reduce Construction Nuisance Noise

The following are required measures to help reduce potential nuisance construction noise for the noise sensitive receptors located near the site:

a. All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
b. Construction noise reduction methods, such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and using electric air compressors and similar power tools rather than diesel equipment, shall be employed where feasible.
c. During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive noise receivers.
d. During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise-sensitive receptors.
e. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment where feasible.
f. Construction site and access road speed limits shall be established and enforced during the construction period.
g. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
h. The on-site construction supervisor and/or "disturbance coordinator" shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.
i. Equipment shall not be left idling unless necessary.
j. The project contractor shall, to the extent feasible, schedule construction activities to avoid the simultaneous operation of construction equipment to minimize noise levels resulting from operating several pieces of high-noise-level-emitting equipment.

NOI-5 Exterior Noise Barriers at Balconies

Prior to issuance of building permits, construction plans shall show noise barriers placed on all balconies that are subject to noise levels greater than 65 decibels (dB) in the Year 2035 + Project model scenario (refer to Table 7 of the Noise Technical Report). The noise barriers may be constructed of a material such as tempered glass, acrylic glass, solid metal (minimum six gage thickness: steel, aluminum, etc.) or any masonry material with a surface density of at least three pounds per square foot. The barriers may also be constructed using a combination of materials, such as a stucco base component topped with glass or Plexiglas, or a solid metal base topped with glass or Plexiglass. The noise barriers shall have no openings or cracks.

b) ***Less-than-Significant Impact:*** As stated in response (a), impacts resulting from groundborne vibration or groundborne noise levels would be reduced to less than significant.

c) ***Less-than-Significant Impact:*** The project is not within the vicinity of a private airstrip. The project

site is located within the McClellan-Palomar ALUCP. The northern tip of the site is located within the 65 dBA CNEL contour (levels within this contour range from 61 to 65 dBA CNEL); no structures are located within the 65 dBA CNEL contour. The central two-thirds of the site is located within the 60 dBA CNEL contour (noise levels here would range from 56 to 60 dBA CNEL). The majority of the proposed structures would be located in the 60 dBA CNEL contour. The southern approximately one-third of the site and structures would be located in the 55 dBA CNEL contour (Dudek 2020c). Therefore, the project would not be exposed to excessive airport noise, and impacts would be less than significant.

XIV. POPULATION AND HOUSING **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Induce substantial unplanned growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) ***Less-than-Significant Impact:*** The proposed project does not include the extension of infrastructure that would indirectly induce population growth. However, the proposed project would directly introduce a new population to the area through development of residential land uses. The proposed project consists of a total of 192 multifamily residential units resulting in approximately 492 new residents (U.S. Census Bureau 2015). SANDAG's 2050 Regional Growth Forecast uses several factors to forecast population, housing, and employment growth in San Diego County; one such factor is jurisdictional general plan housing projections and long-term land use planning. The SANDAG 2050 Regional Growth Forecast states that the city's population is projected to grow by 17.8 percent by 2050. The City's housing stock is projected to grow by 13 percent by 2050, resulting in approximately 50,212 total housing units; multifamily housing units are expected to account for approximately 82 percent of the new housing stock developed in the San Diego region by 2050 (SANDAG 2013).

The City's General Plan Housing Element states that the city's share of the Regional Housing Needs Assessment developed by SANDAG is 4,999 units, which is approximately three percent of the overall regional housing need (City of Carlsbad 2015a). Per the Housing Element, the housing production from January 2010 through April 2016 has reached a total of 1,927 units completed or under construction. There are 2,339 units remaining to meeting the Regional Housing Needs Assessment that have not already been constructed of approved.

Additionally, as discussed in Sections XV, Public Services and XVI, Recreation, the project would implement various off-site improvements and would be required to pay proportionate development impact fees to account for the new population introduced by the project. Despite the project proposing a Land Use and Zoning Amendment to allow for new residential development, some growth would be induced should the project site be developed under existing Planned Industrial land use and zoning designations. Further, the project site is located within a developed area off an arterial corridor with ready access to employment centers and commercial uses. Therefore, the population induced through development of the proposed project would not be substantial. Impacts would be less than significant.

b) ***No Impact:*** The project site is currently undeveloped, disturbed land. There are no existing residential uses on the project site. Therefore, the project would not displace any existing housing or population, and no impact would occur.

XV. PUBLIC SERVICES Would the project:	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, a need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

a) i. ***Less-than-Significant Impact:*** The project is located off Palomar Airport Road, a heavily used road with residential and industrial surrounding uses. As discussed in Section XIII, Population and Housing, the project would introduce 192 multifamily residential units into the area; however, the project would implement various off-site improvements and would be required to pay proportionate development impact fees to account for the new population introduced by the project.

The project is located within the jurisdiction of the CFD, which provides initial response to all structural fire, medical, and associated emergencies within the 38 square miles of the city's boundaries. CFD has six fire stations that are fully equipped with the latest firefighting apparatuses and highly trained personnel to cover the emergency calls generated by the city's population of approximately 115,000 persons. The CFD operates three fire stations that would likely be dispatched to an incident at the project site (Stations 5, 4, and 2), although primary response would be from Station 4, with Stations 5 and 2 responding as necessary to round out the effective firefighting force.

A travel-time response analysis was conducted in the project's FPP (Dudek 2019d). Based on the project site location in relation to existing CFD stations, travel time to the site for the first responding engine from Station 4 is five minutes to the farthest portion of the project site, accessing the site via the emergency access road and reaching the furthest easterly structure. Secondary response is expected to arrive roughly the same timing, assuming response from Station 5 along the Orion Way path. If the response follows Faraday Road to take advantage of signaled intersections, the response travel time is calculated to be five minutes and 38 seconds. Based on these calculations, emergencies within the project can be responded to by primary and secondary responses according to CFD's established emergency response benchmarks for first unit on scene within six minutes or less and second unit on scene within nine minutes. In addition, the city has a signed

automatic aid agreement on first alarm or greater with all surrounding communities. The automatic aid agreement uses automatic vehicle locators so the fire dispatch center can determine the closest unit. The closest unit, regardless of agency, is dispatched first. The City is also part of the San Diego County and State of California Master Mutual Aid Agreements.
The Zone 5 LFMP performance standard for fire protection services states that no more than 1,500 dwelling units should be outside of a five-minute response time. As discussed above, the project meets this standard.

The project's estimated 492 residents may generate up to 40 calls per year, most of which are expected to be medical-related calls. Service-level requirements for the CFD are not expected to be significantly impacted with the increase of 40 calls per year, even when considering all the calls per day in its entire service area or roughly five calls per day per fire station. Therefore, the project is not expected to cause a decline in the CFD response times (Dudek 2019d). Additionally, the proposed project would be required to comply with the California 2016 Fire Code, Title 24, Part 9, and the city's Fire Prevention Code in Chapter 17.04 of the city Municipal Code, which would minimize potential impacts to fire protection. Therefore, the project would have less-than-significant impacts to fire protection services.

a) ii. ***Less-than-Significant Impact:*** The project site is located off Palomar Airport Road, a heavily used road with residential and industrial surrounding uses. As discussed in Section XIII, the project would introduce 192 multifamily residential units into the area; however, the project would implement various off-site improvements and be required to pay proportionate development impact fees to account for the new population introduced by the project.

The project site is currently served by the city's Police Department and would not require the expansion of the service area. The city's Police Department is the 1.9 mile northeast of the project site. The proposed project would directly increase the city's Police Department's service population resulting in an increase in demand for police protection services, which may affect the city's Police Department's maintenance of response times and service ratios. However, the city's Municipal Code requires that all new residential and commercial development pay a local facilities management fee established to pay for improvements or facilities identified in a local facilities management plan that are related to new development within the zone and are not otherwise financed by any other fee, charge, or tax on development or are not installed by a developer as a condition of a building permit or development permit. The fee may also be used to pay for that portion of the facilities or improvements identified in the city-wide facilities and improvement plan attributable to the local zone. The fee would be used by the city to meet the increased demand for funding the expansion of public facilities, including police facilities, to serve new development (City of Carlsbad 2017b).

a) iii. Less-than-Significant Impact: The proposed project is located within the service boundaries of the Carlsbad Unified School District (CUSD) for elementary, middle, and high school students. The proposed project would directly introduce a new student population within the service boundaries of CUSD. The applicant has consulted with the CUSD regarding the capacity of the CUSD schools the project would impact. A letter was received by the CUSD stating that the project would be served by Aviara Oaks Elementary School (6900 Ambrosia Lane), Aviara Oaks Middle School (6880 Ambrosia Lane), and Carlsbad High School (3557 Monroe Street) or Sage Creek High School (3900 Cannon Road) (CUSD 2016). This letter states that some of the CUSD elementary schools are operating at full capacity, and that it is possible that students generated from the proposed project may not attend the closest neighborhood school due to overcrowded conditions and may have to attend school across town. Other schools in the vicinity have the capacity to account for the potential future students generated by the proposed project (CUSD 2016). The Zone 5 LFMP identifies that school capacity to meet projected enrollment within the zone is to be determined by the school district.

Therefore, there is no need for new facilities to accommodate the proposed project.
All residential development is required to pay school developer fees to the appropriate district prior to issuance of building permits. The proposed project would be required to pay such fees that would provide funds to CUSD. The potential future expansion of school facilities that may result from the use of such fees is not reasonably foreseeable and beyond the scope of this MND. Additionally, per California Government Code, Section 65995, the payment of required school fees is considered full and complete mitigation of impacts to school facilities. Therefore, impacts to schools would be less than significant.

a) iv. ***Less-than-Significant Impact:*** The proposed project would directly introduce a new population to the area that would increase the demands for parks. The City's General Plan Recreation Element states, "as of 2013, the city's park facilities are consistent with the Growth Management Plan park facilities standard and City-wide there is a ratio of three acres per 1,000 population" (City of Carlsbad 2015a).

Park facilities are addressed on a Park District basis. There are four park districts which correspond to the four quadrants of the city. Zone 5 is located in all four Park Districts. Although the demand for park facilities within the Southwest Quadrant exceed the inventory of existing park acreage, the quadrant is not out of compliance with the performance standard because the time frame for the construction of additional park facilities would be achieved prior to buildout. It is assumed that Veteran's Memorial Park (91.5 acres, with 22.9 acres applied to each Quadrant) would be constructed within the timeframe specified in the performance standard and there would be a surplus of 14.5 acres. Therefore, the Southwest Quadrant conforms to the adopted Performance Standard through build out.

The proposed project would be required to pay such fees prior to the issuance of building permits. The potential future expansion of park and recreational facilities that may result from the use of such fees is not reasonably foreseeable and is beyond the scope of this MND. The project also includes a recreation area/building, a pool, multiple outdoor recreation areas, and other open space areas. With adherence to the city's Municipal Code and payment of fees, the project would have less-than-significant impacts on parks.

a) v. ***Less-than-Significant Impact:*** The city's Municipal Code requires that all new residential and commercial development pay a local facilities management fee established to pay for improvements or facilities identified in a local facilities management plan that are related to new development within the zone and are not otherwise financed by any other fee, charge, or tax on development or are not installed by a developer as a condition of a building permit or development permit. The fee may also be used to pay for that portion of the facilities or improvements identified in the city-wide facilities and improvement plan attributable to the local zone. The fee would be used by the city to meet the increased demand for funding the expansion of public facilities identified by a local facilities management plan, such as libraries and city Administrative Facilities (City of Carlsbad 2017b).

The Zone 5 LFMP identifies a performance standard for City Administrative Facilities at 1,500 square feet per 1,000 population and libraries 800 square feet per 1,000 population must be scheduled for construction within a five-year period or prior to construction of 6,250 dwelling units. Zone 5 is projected to conform with this standard until buildout with the proposed expansion of the Georgina Cole Library. With adherence to the city's Municipal Code and payment of fees, the project would have less-than-significant impacts on other public facilities.

XVI. RECREATION	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a, b) ***Less-than-Significant Impact:*** The project would contribute a direct permanent increase to the population of the city and increase the demand for recreational areas. Therefore, the proposed project would likely increase the use of existing parks and recreational trails. However, the proposed project includes the development of usable recreational amenities within the project site, including a pool, outdoor recreation areas, and a recreation building. Therefore, the project would not need to construct or expand existing recreational facilities within the area. Additionally, as discussed in Section XIV, the project would pay a development fee in the form of a local facilities management fee, consistent with the city's Municipal Code. A local facilities management fee is established to pay for improvements or facilities identified in a local facilities management plan that are related to new development within the zone and are not otherwise financed by any other fee, charge, or tax on development or are not installed by a developer as a condition of a building permit or development permit. The fee may also be used to pay for that portion of the facilities or improvements identified in the city-wide facilities and improvements plan attributed to development within the local zone that are not financed by other means. The fee shall be fairly apportioned among the new development. The fee would be used by the city to meet the increased demand for parks and recreational facilities incurred by new development. Therefore, with the provision of an on-site recreational area and payment of fees, impacts would be less than significant.

XVII. TRANSPORTATION **Would the project:**	Potentially Significant Impact	Less than Significant with Mit. Incorporated	Less-than-Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines sections 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

This section is based on several transportation-related technical reports and memoranda, including the *West Oaks SB 743 Vehicle Miles Travelled (VMT) Analysis*, *West Oaks TDM Strategies for VMT Reduction Evaluation*, and *Carlsbad West Oaks Parking Management Plan,* each prepared by Fehr & Peers (Fehr & Peers 2020a, b, and c). The section also is based in part on the Local Mobility Analysis (LMA) prepared by Linscott, Law & Greenspan (LLG 2020). Each of the referenced technical memoranda and reports are hereby incorporated by reference.

a) *Less than Significant Impact:*

Pursuant to SB 743 and CEQA Guidelines Section 15064.3 subdivision (b), VMT is the program for measuring and addressing vehicular circulation system facilities under CEQA. Analysis of LOS is no longer the metric for determining transportation environmental impacts. VMT is addressed in 17.b below.

The LMA provides a full GMP analysis as required by the City's Transportation Impact Analysis Guidelines (2018). Through this analysis, several features were identified to improve the design of the project and ensure project consistency with the City's transportation, pedestrian, bicycle, and transit policies. The applicant will implement these features, which are outlined in the LMA (LLG 2020). Incorporation of these features into the project ensures that the proposed project is consistent with the city's Growth Management Plan, as outlined in the LMA. As the City's Transportation Impact Analysis Guidelines and the GMP embody the requirements of the City of Carlsbad with regard to the policies addressing the full range of circulation system requirements and improvements (including transit, roadway, bicycle, and pedestrian facilities), the project would be consistent with these plans and policies, and the project impacts would be less than significant.

b) ***Less-than-Significant Impact :*** While not required by CEQA prior to July 1, 2020, this section provides an analysis of the project's impacts relative to vehicle miles traveled (VMT) consistent with the provisions of CEQA Guidelines section 15064.3, subsection b).

In 2013, Senate Bill 743 (SB 743) was signed into law requiring the adoption of new metrics for analyzing transportation impacts under CEQA as an alternative to LOS. Under SB 743, a project's effect on automobile delay will no longer constitute a significant environmental impact. In response to SB 743, the Office of Planning and Research (OPR) proposed changes to the CEQA Guidelines in the form of new Section 15064.3, which was approved and became effective in December 2018. Under Section 15064.3, VMT generally is the most appropriate measure of transportation impacts and a project's VMT exceeding an applicable threshold of significance may indicate a significant impact. (Section 15064.3, subd. (b).) Lead agencies may elect to be governed by Section 15064.3 immediately, although the provisions of the section do not apply statewide until July 1, 2020. For the limited purpose of this project, the City has elected to allow the project to be governed by the provisions of Section 15064.3 prior to the required implementation date of July 1, 2020.

As such, an SB 743 VMT analysis was conducted for the project by Fehr & Peers (Fehr & Peers 2020a). The VMT analysis was conducted consistent with the methodologies proposed for inclusion in the City's draft *VMT Analysis Guidelines,* currently in preparation. The analysis is also consistent with the *Technical Advisory on Evaluating Transportation Impacts in CEQA* prepared by OPR, December 2018 (OPR Technical Advisory), and is consistent with the *Guidelines for Transportation Impact Studies in the San Diego Region* prepared by the Institute of Transportation Engineers (ITE), San Diego, May 2019 (ITE San Diego Region Guidelines).

Preliminarily, as a residential project, the analysis presented here utilizes a significance threshold of 15% below the City of Carlsbad average VMT per capita, which is consistent with both the OPR Technical Advisory and ITE Guidelines. Under this threshold, if the project's VMT per capita is *15% or more* below the City's average VMT per capita, the project's impacts would be less than significant; conversely, if the project's VMT per capita is *less than 15%* below the City's average VMT per capita, the impact would be considered significant. The City of Carlsbad average VMT per capita is 22.52.

To determine the *project's* VMT per capita, if the project would generate fewer than 2,400 average daily trips (ADT), the City's draft guidelines provide that the analysis may assume that the project's VMT per capita is equal to that of the area surrounding the site of the proposed project, or the traffic analysis zone (TAZ).

As shown below in Table 23, LLG determined that the proposed project would generate approximately 1,152 ADT. Thus, the project would generate fewer than 2,400 ADT and, accordingly, the project VMT per capita is assumed to be equal to that of the surrounding TAZ.

Table 23

Project Trip Generation Summary

			Daily Driveway Trips (ADT)		AM Peak Hour					PM Peak Hour				
						In:Out	*Volume*				*In:Out*	*Volume*		
Land Use	**Quantity**		*Rate*	*Volume*	*Rate*	*Split*	*In*	*Out*	*Total*	*Rate*	*Split*	*In*	*Out*	*Total*
Apartment[a]	192	DU	6/DU	1,152	8%	20:80	18	74	92	9%	70:30	73	31	104

Source: SANDAG 2002.
Notes: ADT = average daily trips; DU = dwelling unit
[a] Apartment rate applied to "any multifamily units more than 20 units/acre."

In this case, the project would be located in a TAZ that has an average VMT per capita of 22.05 (Fehr & Peers 2020a). Thus, for purposes of this analysis, the starting point for determining the project's VMT per capita is 22.05. To this number, an adjustment is then made to account for the TDM program to be implemented by the project (refer to the Project Description above). Based on analysis conducted by Fehr & Peers, implementation of the project's TDM program would result in a 14.4% reduction in project-generated VMT (Fehr & Peers 2020a). Accounting for the 14.4% reduction in VMT attributable to the TDM program, the project would generate a net 18.87 VMT per capita (22.05 * (1 – 14.4%) = 18.87). This amount, 18.87, is 16.2% below the citywide average VMT per capita of 22.52 (1 - (18.87 / 22.52) = 16.2%). Refer to the *West Oaks SB 743 VMT Analysis and West Oaks TDM Strategies for VMT Reduction Evaluation* for additional information (Fehr & Peers 2020a and 2020b).

Accordingly, the project's VMT/Capita would be below the significance threshold and, therefore, the project would have a less than significant impact relative to VMT.

c) ***Less-than-Significant Impact:*** This subsection addresses whether the project would substantially increase hazards due to a geometric design feature or incompatible uses. Access to the proposed project would be provided via the existing intersection at Palomar Oaks Way and West Oaks way. An additional driveway from Palomar Airport Road would be provided for emergency access.

Access via the Palomar Oaks Way intersection would be via a roundabout intersection at the existing West Oaks Way and Palomar Oaks Way, which is the existing west leg of Palomar Oaks Way/West Oaks Way unsignalized T intersection. Currently, this west leg is closed to through traffic by a physical barricade, and the balance of the intersection functions as a de facto curve. The project proposed roundabout would be a one-lane roundabout with an approximate inscribed diameter of 100 feet. A primary project access driveway would form the west leg of the roundabout and second project access driveway would form the south leg of the roundabout. Each of the four legs of the roundabout would provide a single-lane entry with a design speed of 25 miles per hour.

A right-in/right-out driveway to Palomar Airport Road is proposed as an emergency access point to the project site. On-site pedestrian circulation is proposed to connect with the existing pedestrian sidewalk located on the western side of West Oaks Way and to Palomar Airport Road at the western end of the site. All project circulation improvements would be designed and constructed to city standards, including standards for safety in design, and, therefore, the project would not increase hazards due to a design feature, nor would it increase hazards due to an incompatible use. Therefore, development of the proposed project would not substantially increase hazards and impacts would be less than significant.

d) ***Less-than-Significant Impact:*** This subsection addresses whether the project would result in inadequate emergency access. Fire apparatus access throughout the development would include roads that meet the Fire Code requirements for width, grade, clearance, dead-end length, and turnarounds. Therefore, the project's access would be considered consistent with City Fire Code requirements (LLG 2020). Additionally, the project's circulation system would provide adequate access to Palomar Airport Road, the area's primary emergency route. Impacts to emergency access would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

a) ***Less than Significant with Mitigation Incorporated:*** Section V, Cultural Resources, identified no California Register of Historical Resources (CRHR) eligible tribal cultural resources (TCR), and therefore, no CRHR eligible TCRs within the project site. However, based on tribal consultation, as described below, there is a potential for a TCR to be present within the project site. Therefore, with the incorporation of Mitigation Measures CUL-2 through CUL-12, impacts would be less than significant.

b) ***Less than Significant with Mitigation Incorporated:*** The city received two requests for consultation pursuant to Assembly Bill (AB) 52 made by the San Luis Rey Band of Mission Indians and Rincon Band of Luiseño Indians. AB 52 consultation with both tribes concluded in July 2019 and November 2017, respectively. Additionally, consultation pursuant to Senate Bill (SB) 18) occurred in May 2017 and has since concluded. Based on the tribal consultation and the city's analysis of substantial evidence pursuant to California Register of Historical Resources criteria while considering potential significance to the tribe, the city has determined that there is a potential for a TCR to be present within the project site that could be impacted by the project if encountered during grading activities. The City and San Luis Rey Band of Mission Indians agreed to incorporate City standard mitigation measures for the protection and preservation of tribal cultural resources in the event that ground-disturbing activities expose Native American cultural resources. The city incorporated revisions to the mitigation measures requested by Rincon Band of Luiseño Indians to require any discovered tribal cultural resources to be re-buried on site. Impacts would be less than significant with the incorporation of Mitigation Measures CUL-2 through CUL-12.

XIX. UTILITIES AND SERVICE SYSTEMS **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

This section is based on the Sewer System Analysis performed by Dexter Wilson Engineering Inc. in August 2017 (Dexter Wilson 2017a) and the Water System Analysis prepared by Dexter Wilson Engineering Inc. in July 2017 (Dexter Wilson 2017b). These technical memoranda and reports are hereby incorporated by reference.

a, b, c) ***Less-than-Significant Impact:*** The proposed project of 192 units on a disturbed 12.53-acre site would discharge wastewater into the city's Wastewater Division, which delivers its wastewater to Encina Wastewater Authority. The Encina Wastewater Authority treats approximately 22 million gallons per day of wastewater with a capacity of over 40 million gallons per day (EWA 2017). Therefore, Encina Wastewater Authority has adequate capacity to serve the project's estimated demand of 33,792 gallons per day, with a peak flow of 84,480 gallons per day (Dexter Wilson 2017a). The proposed project would not impede or alter the Encina Wastewater Authority's ability to treat wastewater and remain in compliance with the Regional Water Quality Control Board discharge requirements. Therefore, impacts would be less than significant.

Please refer to the project description for the two proposed sewer service connection options. The Buena Interceptor does not currently have excess capacity but will have capacity when the City of Vista completes the Buena Outfall Force Main Project and reroutes 3.75 million gallons per day from this line to the Vallecitos Interceptor. The Buena Outfall Force Main Project is currently under construction and is expected to be completed by June 2020. This option is preferred as it all improvements would be located within existing or planned driveways and would not require crossing Encinas Creek.

Because the Buena Outfall Force Main Project has not been completed, an alternative sewer service option is included. The project can receive service by constructing a gravity sewer line to convey flows to the Vallecitos Interceptor. This alternative would require trenchless construction for the section that crosses Encinas Creek and a connection to an existing manhole in Palomar Airport Road. Therefore, under either scenario, adequate capacity would be available to serve the proposed development. Thus, impacts would be less than significant.

The proposed project would increase demand for water and would produce wastewater. The Carlsbad Municipal Water District (CMWD) would serve the project's water and wastewater needs. CMWD purchases water from the San Diego County Water Authority, which gets its water from the Colorado River, State Water Project Water, and desalinated seawater. The CMWD is a member of the North San Diego Water Reuse Coalition, which allow CMWD to expand beneficial reuse of local wastewater for non-drinking water purposes, such as irrigation and industrial uses. CMWD also assumes ongoing conservation and increased recycled water use, which will reduce potable water demands. The 2015 UWMP demand analysis demonstrates that, with existing and anticipated conservation efforts, CMWD is on track to meet its 2020 gallons per capita per day target of 207 gallons per capita per day (CMWD 2016). As stated in the Water System Analysis for the project (Dexter Wilson 2017b), the projected maximum day demand for the project is 77,550 gallons per day, while the projected peak-hour demand is 136,300 gallons per day (Dexter Wilson 2017b). Water service can be provided to the project by the CMWD 375 Zone system. Currently, there is a 12-inch line on West Oaks Way that loops to the transmission line on Palomar Airport Road with connections at Palomar Oaks Way and at the western end of the project through an easement. Water service is proposed to be provided by connecting to the existing 375 Zone water line in West Oaks Way. The project would have a higher annual average water use than what was projected with the existing industrial zoning, but the fire flow requirements are less for multifamily than industrial. Thus, the existing line in West Oaks Way would adequately serve the proposed project. Further, construction of the proposed water connections would be improvements that would be limited to the project site only. As such, the construction of the new gravity sewer line would not result in significant environmental effects and would not require new water entitlements. Therefore, impacts would be less than significant.

Refer to Section X, Hydrology and Water Quality, for additional discussion regarding hydrology and drainage. The proposed project would develop 192 units on a disturbed 12.53-acre site. The project would include connections to the existing City's stormwater conveyance system, which has the capacity to accept the project's stormwater contributions. While the proposed project would alter the amount of impervious surfaces on the project site compared to the existing condition, a SWQMP was prepared for the project and specifies BMPs that would be implemented during construction and operations of the project. Further, additional stormwater facilities and eight BMPs, which would each consist of surface ponding, storage within soil media void space, and an underground detention vaults, would be implemented as part of the project to ensure runoff from large storm events would not exceed the capacity of the stormwater drainage system. The construction of these facilities is already analyzed in this MND and would not cause significant environmental effects. Stormwater facilities proposed as part of the project would be maintained by the project's HOA. Impacts would be less than significant.

The Zone 5 LFMP provides performance standards for wastewater, water, and drainage facilities. For wastewater, the LFMP identifies a performance standard of providing adequate wastewater treatment capacity for at least a five-year period. Per the Fiscal Year 2015–16 Growth Management Monitoring Report (City of Carlsbad n.d.), the Encina Water Pollution Facility provides adequate sewer treatment capacity to ensure compliance with Growth Management wastewater performance standard through buildout of the Carlsbad sewer service area. For drainage facilities, the LFMP performance standard states that such facilities must be provided concurrent with development. A Drainage Study has been prepared to ensure that project drainage would be adequately served by existing and planned drainage facilities (Fuscoe Engineering 2019). For water facilities, the LFMP identifies a performance standard of line capacity to meet demand concurrent with development. Since CMWD requires development to install domestic water, which includes fire flow needs, and recycled water as a condition to future development, conformance with the adopted performance standard will be maintained through ultimate build out of Zone 5. As indicated above, and with payment of any required development impact fees, the project would be in compliance with the city's growth management standards.

The project would connect to existing electric, natural gas, and telecommunication lines and facilities within and adjacent to the project site. The project does not propose uses that would be expected to generate an excessive need for these facilities such that construction or relocation would be required. As described previously, existing overhead utility lines owned and operated by SDG&E and the associated 100-foot-wide easement traverse a portion of the project site. The project would require encroachment into the existing SDG&E easement during construction and for various passive uses including project driveways, parking areas, sidewalks and common areas, landscaping, fire hydrants, and underground utilities. The total area of passive use encroachment would amount to approximately 121,900 feet. The existing street lights (approximately 25 feet in height) within the SDG&E easement would be removed and replaced with new street lights that would be a maximum of 12 feet in height. All proposed landscape plantings would be in compliance with SDG&E's acceptable species list. The proposed on site driveways and parking areas would provide SDG&E additional staging areas for routine maintenance of the transmission facilities. Construction and operation of the project would not alter or affect the ongoing operations of the existing overhead transmission lines or SDG&E's easement through the project site. Therefore, impacts would be less than significant.

d) *Less-than-Significant Impact*: The project would produce waste during construction and operation, typical of that of a normal residential development. The project does not include any uses that would otherwise generate excessive solid waste during either construction or the operational life of the project. Construction would be a short-term and temporary source of waste. Operation would result in a long-

term source for solid waste. Waste Management of North County provides service for the city. The city's solid waste that is not diverted from the city is hauled to two landfills in San Diego County: Otay Landfill and Sycamore Landfill (City of Carlsbad 2015b). Otay Landfill has a remaining capacity of approximately 21,194,008 cubic yards, and Sycamore Landfill has a remaining capacity of approximately 113,972,637 cubic yards (CalRecycle 2017a, 2017b). Given the estimated remaining capacity and the continued state and local efforts and regulations to reduce waste streams to landfills, the project would be adequately served by existing landfills. Impacts would be less than significant.

e) *No Impact:* During construction and operation, the project would be required to comply with applicable federal, state, and local regulations regarding the proper disposal of solid waste, including the Carlsbad Municipal Code as it relates to solid waste and recycling. Therefore, no impact would occur.

XX. WILDFIRE **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

The project site is not located in or near state responsibility areas (SRA) and near lands classified as very high fire hazard severity zones (CAL FIRE 2007 and 2009). None of the incorporated City of Carlsbad is located within a SRA. The nearest lands classified as very high fire hazard severity zones are located approximately 0.8 miles to the north along Faraday Avenue, separated from the project site by existing development and a golf course. Given this, impacts are considered less than significant for the following thresholds. However, a brief analysis is provided.

a,b,c,d) *Less than Significant:* As discussed in Section IX, an FPP was prepared for the project in October 2018. The proposed project has been designed to satisfy the emergency requirements of the fire and police departments. The FPP ensures the proposed project would comply with the city's emergency response in relation to fire. Site ingress/egress will comply with the requirements of the CFD.

According to Figure 6-10, Structure Fire/Wildfire Threat in the General Plan (City of Carlsbad 2015a), the northwestern portion of the project site is located in a high threat Fire Hazard Severity Zone, and the middle of the project site is located in a moderate threat Fire Hazard Severity Zone. The rest of the project site is located within an urban environment. The project's FPP was submitted in compliance with the

requirements of the CFD Fire Code. As described in the FPP, the project site is located within an area that can be considered a wildland urban interface but is not statutorily designated as a local or state responsibility area "very high fire hazard severity zone." The recommendations provided in the FPP have been designed specifically for the proposed project and the wildland urban interface zone at the project site. By implementing the recommendations and project-specific requirements outlined in the FPP, the project would not exacerbate wildfire risk. As such, impacts would be less than significant.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mit. Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☐	☒	☐	☐
c) Does the project have environmental effects, which will cause the substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a) ***Less than Significant with Mitigation Incorporated:*** As discussed in Section IV, the proposed project would potentially result in significant impacts to vegetation, special-status wildlife, riparian, wetland habitat and other sensitive natural communities, jurisdictional areas, and the Carlsbad HMP. However, with incorporation of Mitigation Measures BIO-1 through BIO-11, all potentially significant impacts would be reduced to a level below significance. The proposed project would not substantially degrade the quality of the environment, impact fish or wildlife species, or plant communities.

As discussed in Section V, potential impacts regarding inadvertent discovery of cultural resources could occur during construction of the project. However, implementation of Mitigation Measures CUL-1 through CUL-12 would ensure that impacts would be less than significant. Overall, impacts would be less than significant with the incorporation of mitigation.

As discussed in Section XVIII, tribal consultation between the city and the San Luis Rey Bank of Mission Indians, pursuant to AB 52 and SB 18, determined that there was a significant potential for a tribal cultural resource to be present and impacted by project grading activities. Implementation of Mitigation Measures CUL-2 through CUL-12 would ensure the protection and preservation of TCRs and therefore would reduce impacts to less than significant. Overall, impacts would be less than significant with the incorporation of mitigation.

b) ***Less than Significant with Mitigation Incorporated:*** As provided in the analysis in this MND, the proposed project would not result in significant impacts to aesthetics, agriculture and forestry resources, air quality, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation and traffic, tribal cultural resources, and utilities and service systems. Mitigation measures recommended for biological resources, cultural and tribal cultural resources, paleontological resources, and noise would reduce impacts to below a level of significance. The proposed project would incrementally contribute to cumulative impacts for projects occurring within the city. With mitigation, however, implementation of the proposed project would not result in any residually significant impacts that could contribute to a cumulative impact. In the absence of residually significant impacts, the incremental accumulation of effects would not be cumulatively considerable and would be less than significant.

c) ***Less than Significant with Mitigation Incorporated:*** The potential for adverse direct or indirect impacts to human beings was considered throughout the above analysis in this MND. Based on this evaluation, there is no substantial evidence that construction or operation of the proposed project with the proposed mitigation measures incorporated would result in a substantial adverse effect on human beings.

XX. LIST OF MITIGATION MEASURES

BIO-1 Clearing and grubbing activities are prohibited on site during the bird-breeding season (February 15–September 15). The U.S. Fish and Wildlife Service (USFWS) will be notified at least seven days before clearing and grubbing begins. During this activity, a qualified biologist will walk the area ahead of construction equipment to flush birds away from impact areas to prevent direct impact to individual animals. The qualified biologist will immediately report to USFWS the number and location of any federally listed birds disturbed by clearing and grubbing.

BIO-2 A number of oak trees were originally preserved on site within the original approval of the project. These trees are currently declining in condition or are dead. As such, to mitigate for the loss of these trees, oak trees are included in the landscape plans for the riparian buffer area. Trees will be provided at a 1:1 ratio.

BIO-3 Clearing and grubbing activities are generally prohibited during the bird-breeding season (February 15–September 15); thus, no direct impacts will occur to nesting birds that may be present within the construction footprint per Mitigation Measure BIO-3. The U.S. Fish and Wildlife Service (USFWS) will be notified at least seven days before clearing and grubbing begins.

Other construction activities will also be avoided during the breeding season if feasible. If this cannot be avoided, the following measures will be taken:

- If coastal California gnatcatchers (*Polioptila californica californica*) have the potential to occur on site, a qualified biologist will conduct a focused species gnatcatcher survey in appropriate habitat within the preserve areas and 500 feet surrounding the project site within suitable habitat. The surveys will consist of three visits one week apart; the last of these will be conducted no more than three days prior to construction.

- Surveys will be conducted by a qualified biologist in appropriate habitat for nesting raptors and migratory birds (including but not limited to the least Bell's vireo (*Vireo bellii pusillus*)) and within a 500-foot survey buffer within three days of construction.
- The USFWS will be notified immediately of any federally listed species that are located during pre-construction surveys within the adjacent areas.
- If nests of listed birds, migratory birds, raptors, or other special-status species are located, they will be fenced with a protective buffer of at least 500 feet from active nests of listed species and 300 feet from other special-status bird species. All construction activity will be prohibited within this area.
- During the breeding season, construction noise will be measured regularly to maintain a threshold at or below 60 A-weighted decibels (dBA) hourly equivalent level (L_{eq}) within 500 feet of breeding habitat occupied by listed species. The site is currently affected by roadway noise. If ambient levels are greater than 60 dBA, a modified threshold should be evaluated with the City of Carlsbad. If noise levels supersede the threshold, the construction array will be changed or noise attenuation measures will be implemented.

BIO-4 **Wildlife Construction Measures**

a) Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. Construction adjacent to drainages shall occur during periods of minimum flow (i.e., summer through the first significant rain of fall) to avoid excessive sedimentation and erosion and to avoid impacts to drainage-dependent species. Construction near riparian areas or other sensitive habitats shall also be scheduled to avoid the breeding season (January 1 through September 15) and potential impacts to breeding bird species (refer to Mitigation Measure BIO-3).

b) Lighting in or adjacent to the preserve shall not be used, except where essential for roadway, facility use, and safety. If nighttime construction lights are necessary, all lighting adjacent to natural habitat shall be shielded and/or directed away from habitat.

c) If dead or injured listed species are located, initial notification must be made within three working days, in writing, to the USFWS Division of Law Enforcement in Torrance, California, and by telephone and in writing to the applicable jurisdiction, Carlsbad Field Office of the USFWS, and CDFW.

d) Exotic species that prey on or displace target species of concern shall be permanently removed from the site.

e) To avoid attracting predators of the target species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site. Pets of project personnel shall not be allowed on site where they may come into contact with any listed species.

BIO-5 Habitat restoration (i.e., creation and substantial restoration) totaling 0.24 acres of jurisdictional southern willow scrub, 0.03 acres of open water, and 0.04 acres of coastal sage scrub designed through preparation of a conceptual habitat restoration plan shall be reviewed and approved by the city Planner in consultation with the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the California

Coastal Commission (CCC). Based on a current evaluation, restoration is estimated to include 1.35 acres of disturbed habitat.

The applicant shall submit a final habitat restoration plan and specifications to the City of Carlsbad and agencies for review at least 30 days prior to initiating project impacts. The habitat restoration plan shall be prepared and implemented consistent with the Multiple Habitat Conservation Program, Volume II, Appendix C (Revegetation Guidelines), and Volume III; *Habitat Management Plan for Natural Communities in the City of Carlsbad* (City of Carlsbad 2004, pp. F-8 to F-11); and Open Space Management Plan, Section 3.1.5. The habitat restoration plan shall be reviewed and approved by the city Planner in consultation with the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC). At a minimum, the habitat restoration plan should include an evaluation of restoration suitability specific to proposed habitat types, soil and plant material salvage/translocation information, planting and seeding lists, a discussion of irrigation, a maintenance and monitoring program, and success criteria. All areas should be monitored for five years to ensure establishment of intended plant communities.

An approved habitat restoration specialist shall be designated and determine the most appropriate method of restoration. Restoration techniques, as specified in the habitat restoration plan, may include hydroseeding, hand-seeding, imprinting, and soil and plant salvaging. The habitat restoration plan shall also include criteria to measure success and describe how monitoring of revegetation efforts shall be implemented. At the completion of project construction, all construction materials shall be removed from the site. Additionally, if deemed necessary, any topsoil located in areas to be restored shall be conserved and stockpiled during the excavation process for use in the restoration process.

BIO-6 **Construction Plans Requirements** The potential for significant indirect impacts during construction shall be mitigated through implementation of the standard measures stated in the city's Biology Guidelines.

a) A qualified biologist shall conduct a training session for project personnel prior to proposed activities. At a minimum, the training shall include a description of the target species of concern and its habitats; the general provisions of the federal and state Endangered Species Acts and the Habitat Management Plan (HMP); the need to adhere to the provisions of the act and the HMP; the penalties associated with violating the provisions of the act; and the general measures that are being implemented to conserve the target species of concern as they relate to the project, access routes, and project site boundaries within which the project activities must be accomplished.

b) The footprint of disturbance shall be specified in the construction plans. Construction limits would be delineated with orange fencing, and in areas potentially subject to project-related runoff, silt fencing would be used to delineate the impact footprint. All fencing would be maintained until the completion of all construction activities, at which time all fencing would be removed. All construction personnel and associates shall be instructed that their activities, vehicles, equipment, and construction

materials are restricted to the proposed project footprint, designated staging areas, and routes of travel. If any impacts shall occur beyond the approved impact footprint, all work in the immediate vicinity shall cease until the disturbance limit breach has been addressed to the satisfaction of the City of Carlsbad and resource agencies.

c) The upstream and downstream limits of project disturbance (i.e., the location of the bridge crossing) plus limits of disturbance on either side of the riparian vegetation on site shall be clearly defined, marked in the field, and reviewed by the project biologist prior to initiation of work. The project should be designed to avoid the placement of equipment within the riparian vegetation or on adjacent upland habitats used by target species of concern, unless otherwise part of the mitigation plan.

d) A water pollution and erosion control plan shall be developed that describes sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and other factors deemed necessary by reviewing agencies. Erosion control measures shall be monitored on a regularly scheduled basis, particularly during times of heavy rainfall. Corrective measures will be implemented in the event erosion control strategies are inadequate. Sediment/erosion control measures will be continued at the project site until such time as the revegetation efforts are successful at soil stabilization.

e) The qualified project biologist shall review grading plans (e.g., all access routes and staging areas) and monitor construction activities throughout the duration of grading/ground disturbance associated with the project to ensure that all practicable measures are being employed to avoid incidental disturbance of habitat and any target species of concern outside the project footprint.

f) Construction monitoring reports shall be completed and provided to the city summarizing how the project is in compliance with applicable conditions. The project biologist should be empowered to halt work activity if necessary and to confer with City staff to ensure the proper implementation of species and habitat protection measures.

g) Any habitat that is impacted that is not in the identified project footprint shall be disclosed immediately to the city, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC) and shall be compensated at a minimum ratio of 5:1.

h) Construction access to and from the site will be located along existing access routes or disturbed areas to the greatest extent possible. All access routes outside of existing roads or construction areas will be clearly marked.

i) Construction employees will limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.

j) Equipment storage, fueling, and staging areas shall be located on disturbed upland sites with minimal risk of direct drainage into riparian areas or other sensitive habitats and at least 100 feet from waters of the United States. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. All necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. All project-related spills of hazardous materials shall be reported to the city and shall be cleaned up immediately, and contaminated soils shall be moved to approved disposal areas.

k) If stream flows must be diverted (unlikely for the bridge construction), the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from re-entering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.

l) Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.

m) Fugitive dust will be avoided and minimized through watering and other appropriate measures.

BIO-7 The City has the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions, including best management practices (BMPs). The USFWS and CDFW may accompany City representatives on this inspection.

BIO-8 Impacts to jurisdictional resources are anticipated in order to construct the emergency access and bridge. Prior to the issuance of permits for grading or construction activities, the applicant shall obtain the following permits and agreement:

- A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Wildlife (CDFW) for maintenance activities in the streambed
- Any necessary California Coastal Act permits from the California Coastal Commission (CCC) and/or City of Carlsbad.

BIO-9 Protective habitat buffers consistent with the City of Carlsbad's Habitat Management Plan (Carlsbad HMP) and Guidelines for Riparian Buffers shall be incorporated into project design. Prior to the recordation of the first final map, the riparian buffers shall be included in the restrictive covenant that also will provide protection for the riparian habitat. The upland buffer is not to be included in the restrictive covenant.

BIO-10 In order to prevent impacts of the proposed development on the City of Carlsbad's Habitat Management Plan (Carlsbad HMP) preserve area off site and to the west or to the native vegetation in the riparian habitat proposed to be amended into the Carlsbad HMP preserve, the proposed project shall comply with the adjacency standards outlined in the Carlsbad HMP. Prior to the issuance of the first grading permit, the project plans shall reflect the adjacency standards as follows:

a. Fire Management

Fire management for the proposed project shall be addressed through the designation of the fuel modification zones (FMZs). All FMZ areas shall be incorporated within the development boundaries and shall be addressed with the preparation of a fire protection plan (FPP).

b. Erosion Control

Standard best management practices (BMPs) will be implemented to slow surface flow and dampen initial precipitation flow in the development area. In addition, no new surface drainage shall be directed into the open space areas.

c. Landscaping Restrictions

Landscape planting palettes for the proposed project shall not use non-native, invasive plant species in the areas adjacent to the riparian or upland habitat or adjacent to the Carlsbad HMP preserve off site to the west or south. In addition, because the site is within the Coastal Zone, no invasive plant species shall be used in the landscaping of the development. These plant species are identified in the Carlsbad HMP but the list of invasive species that will be avoided is not limited to the species on the Carlsbad HMP list. Irrigation of the landscaping shall be designed and scheduled to avoid runoff into the proposed open space. The riparian and upland buffers shall be restored with native habitat per the concept plan.

d. Fencing, Signs, and Lighting

To deter entry into the riparian habitat (open space area protected by the restrictive covenant) by people and pets, the area shall be fenced with post and cable fencing. Signs shall be attached to the fence at intermittent intervals to alert the residents of the sensitive nature of the open space area and that dogs are not allowed. A trail is proposed to be located within the 15 feet closest to development, and the fencing shall preclude people from passing beyond the trail into the habitat. Other than safety lighting, no lighting that shall intrude into the riparian habitat and will be shielded or directed away from the open space area. Fencing shall be installed along the southern boundary in supplement to the existing walls and to prevent people from entering the preserve area off site. Fencing and walls shall also be installed in any areas adjacent to the proposed open space to preclude human activity within the open space.

e. Predator and Exotic Species Control

The homeowners' association (HOA) for the proposed development shall alert the residents to the potential effects that domestic animals may have on the native fauna and flora. The riparian habitat shall be fenced to discourage the entry of domestic animals into the open space.

BIO-11 The City of Carlsbad's Habitat Management Plan (Carlsbad HMP) requires that impacts to disturbed habitat (Group F) required mitigation with an in-lieu fee. Thus, the project is required to pay an in-lieu mitigation fee (also known as the HMP mitigation fee) for impacts to disturbed habitat prior to final map approval, issuance of a grading permit or clearing of any habitat, whichever occurs first. This is a per-acre fee charged for impacts to Habitat Groups D, E, and F, totaling 6.26 acres, as an alternative to conserving habitat on site or acquiring habitat off site to mitigate for such impacts. The cost per acre for this mitigation fee will be determined by the city.

BIO-12 Prior to final map approval, issuance of a grading permit or clearing of any habitat, whichever occurs first, the applicant shall perform the following:

- Record a conservation easement, as defined by California Civil Code, Section 815.1, or other protective measure for all on-site mitigation land including 4.11 acres of open space.
- Select a qualified conservation entity to manage the conserved land.
- Prepare a Property Analysis Record to estimate costs of in perpetuity management and monitoring or otherwise provide for an estimate of funding needed.
- Provide a non-wasting endowment or other funding sources acceptable to the wildlife agencies, California Coastal Commission (CCC), and City of Carlsbad based on the Property Analysis Record to sufficiently cover the costs of in-perpetuity management and monitoring.
- Prepare a preserve management plan, which will be approved by the city and wildlife agencies.

CUL-1 An archaeological monitor shall be present for initial ground-disturbing activities associated with the proposed project in the event unanticipated discoveries are made. If human remains are discovered, California Health and Safety Code Section 7050.5, states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County coroner shall be contacted. At this time, the person who discovered the remains will contact the City of Carlsbad so that they may work with the most likely descendent on the respectful treatment and disposition of the remains.

CUL-2 Prior to the commencement of any ground disturbing activities, the project developer shall enter into a Pre-Excavation Agreement, otherwise known as a Tribal Cultural Resources Treatment and Tribal Monitoring Agreement, with the San Luis Rey Band of Mission Indians or other Luiseño tribe. This agreement will contain provisions to address the proper treatment of any tribal cultural resources and/or Luiseño Native American human remains inadvertently discovered during the course of the project. The agreement will outline the roles and powers of the Luiseño Native American monitors and the

archaeologist. A copy of said archaeological contract and Pre-Excavation Agreement shall be provided to the City of Carlsbad prior to the issuance of a grading permit.

CUL-3 A Luiseño Native American monitor shall be present during all ground disturbing activities. Ground disturbing activities may include, but are not be limited to, archaeological studies, geotechnical investigations, clearing, grubbing, trenching, excavation, preparation for utilities and other infrastructure, and grading activities.

CUL-4 Any and all uncovered artifacts of Luiseño Native American cultural importance shall be treated with dignity and respect and be reburied on-site within an appropriate location protected by open space or easement, etc., where the cultural items will not be disturbed in the future, or shall be returned to the Most Likely Descendant, whichever is most applicable, and shall not be curated, unless ordered to do so by a federal agency or a court of competent jurisdiction.

CUL-5 The Luiseño Native American monitor shall be present at the project's on-site preconstruction meeting to consult with grading and excavation contractors concerning excavation schedules and safety issues, as well as consult with the principal archaeologist concerning the proposed archaeologist techniques and/or strategies for the project.

CUL-6 Luiseño Native American monitors and archaeological monitors shall have joint authority to temporarily divert and/or halt construction activities. If tribal cultural resources are discovered during construction, all earth moving activity within and around the immediate discovery area must be diverted until the Luiseño Native American monitor and the archaeologist can assess the nature and significance of the find.

CUL-7 If a significant tribal cultural resource(s) and/or unique archaeological resource(s) are discovered during ground disturbing activities for this project, the San Luis Rey Band of Mission Indians shall be notified and consulted regarding the respectful and dignified treatment of those resources. Pursuant to California Public Resources Code Section 21083.2(b) avoidance is the preferred method of preservation for archaeological and tribal cultural resources. If however, the Applicant is able to demonstrate that avoidance of a significant and/or unique cultural resource is infeasible and a data recovery plan is authorized by the City of Carlsbad as the lead agency, the San Luis Rey Band of Mission Indians shall be consulted regarding the drafting and finalization of any such recovery plan.

CUL-8 When tribal cultural resources are discovered during the project, if the archaeologist collects such resources, a Luiseño Native American monitor must be present during any testing or cataloging of those resources. If the archaeologist does not collect the tribal cultural resources that are unearthed during the ground disturbing activities, the Luiseño Native American monitor shall follow the procedures in CUL-4.

CUL-9 If suspected Native American human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the San Diego County Medical Examiner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition

has been made. Suspected Native American remains shall be examined in the field and kept in a secure location at the site. A Luiseño Native American monitor shall be present during the examination of the remains. If the San Diego County Medical Examiner determines the remains to be Native American, the Native American Heritage Commission (NAHC) must be contacted by the Medical Examiner within 24 hours. The NAHC must then immediately notify the "Most Likely Descendant" about the discovery. The Most Likely Descendant shall then make recommendations within 48 hours, and engage in consultation concerning treatment of remains as provided in Public Resources Code 5097.98.

CUL-10 In the event that fill material is imported into the project area, the fill shall be clean of tribal cultural resources and documented as such. If fill material is to be utilized and/or exported from areas within the project site, then that fill material shall be analyzed and confirmed by an archeologist and Luiseño Native American monitor that such fill material does not contain tribal cultural resources.

CUL-11 No testing, invasive or non-invasive, shall be permitted on any recovered tribal cultural resources without the written permission of the San Luis Rey Band of Mission Indians.

CUL-12 Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusions of the monitoring program shall be submitted by the archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Carlsbad for approval, and shall be submitted to the South Coastal Information Center. Said report shall be subject to confidentiality as an exception to the Public Records Act and will not be available for public distribution.

GEO-1 Prior to initiation of ground-disturbing activities within the project site that would extend into the Santiago Formation, a qualified paleontological monitor shall be retained to monitor and recognize potential paleontological discoveries during construction of the project. If unexpected, potentially significant paleontological resources are encountered during construction, the paleontological monitor shall have the authority to temporarily redirect or suspend construction activities and evaluate the potential significance of the find and record or salvage it. Prior to the start of ground-disturbing activities, the City of Carlsbad shall verify that the requirement for paleontological monitoring is noted on the appropriate construction documents.

NOI-1 **Interior Noise Study**

Prior to the approval of building permits, the applicant shall submit an interior noise study for approval by the city Building Department. The interior noise study would ensure compliance with the city and state's 45 decibel (dB) Community Noise Equivalent Level (CNEL) noise standard.

NOI-2 **Elevated Noise Environment Disclaimer**

Prior to sale, lease, or rental of any residential structure or portion thereof located in the Airport Influence Area (AIA), the applicant/owner shall provide prospective buyers and future occupants the following notice:

This property is currently located in an urban area that periodically and regularly experiences elevated noise levels. Potential sources of this noise may be automobile traffic, flying aircraft, industrial/commercial uses, and general human activity in an urban environment. You may wish to consider what noise level annoyances, if any, are associated with the property before you complete your purchase and/or rental agreement, and determine whether they are acceptable to you.

NOI-3 Limit Construction Work Hours

- Noise-generating construction activities (i.e., operation of equipment, performing any construction, or the grading or excavation of land) associated with the project shall not occur in the period before 7:00 a.m. or after 6:00 p.m. on weekdays or before 8:00 a.m. or after 6:00 p.m. on Saturday. Noise-generating construction activities associated with the project are prohibited on Sundays and federal holidays.
- Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary. In the event the city and/or construction contractor receives a complaint, appropriate corrective actions shall be implemented, and a report of the action shall be provided to the reporting party.

NOI-4 Measures to Reduce Construction Nuisance Noise

The following are required measures to help reduce potential nuisance construction noise for the noise sensitive receptors located near the site:

a. All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
b. Construction noise reduction methods, such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and using electric air compressors and similar power tools rather than diesel equipment, shall be employed where feasible.
c. During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive noise receivers.
d. During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise-sensitive receptors.
e. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment where feasible.
f. Construction site and access road speed limits shall be established and enforced during the construction period.
g. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

h. The on-site construction supervisor and/or "disturbance coordinator" shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.
i. Equipment shall not be left idling unless necessary.
j. The project contractor shall to the extent feasible, schedule construction activities to avoid the simultaneous operation of construction equipment to minimize noise levels resulting from operating several pieces of high-noise-level-emitting equipment.

NOI-5 Exterior Noise Barriers at Balconies

Prior to issuance of building permits, construction plans shall show noise barriers placed on all balconies that are subject to noise levels greater than 65 decibels (dB) in the Year 2035 + Project model scenario (refer to Table 7 of the Noise Technical Report). The noise barriers may be constructed of a material such as tempered glass, acrylic glass, solid metal (minimum six gage thickness: steel, aluminum, etc.) or any masonry material with a surface density of at least three pounds per square foot. The barriers may also be constructed using a combination of materials, such as a stucco base component topped with glass or Plexiglas, or a solid metal base topped with glass or Plexiglass. The noise barriers shall have no openings or cracks.

XXI. EARLIER ANALYSES

Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In such cases, a discussion should identify the following on attached sheets:

a) Earlier analyses used. Identify earlier analyses and state where they are available for review.
b) Impacts adequately addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
c) Mitigation measures. For effects that are "Less Than Significant with Mitigation Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

EARLIER ANALYSIS USED AND SUPPORTING INFORMATION SOURCES

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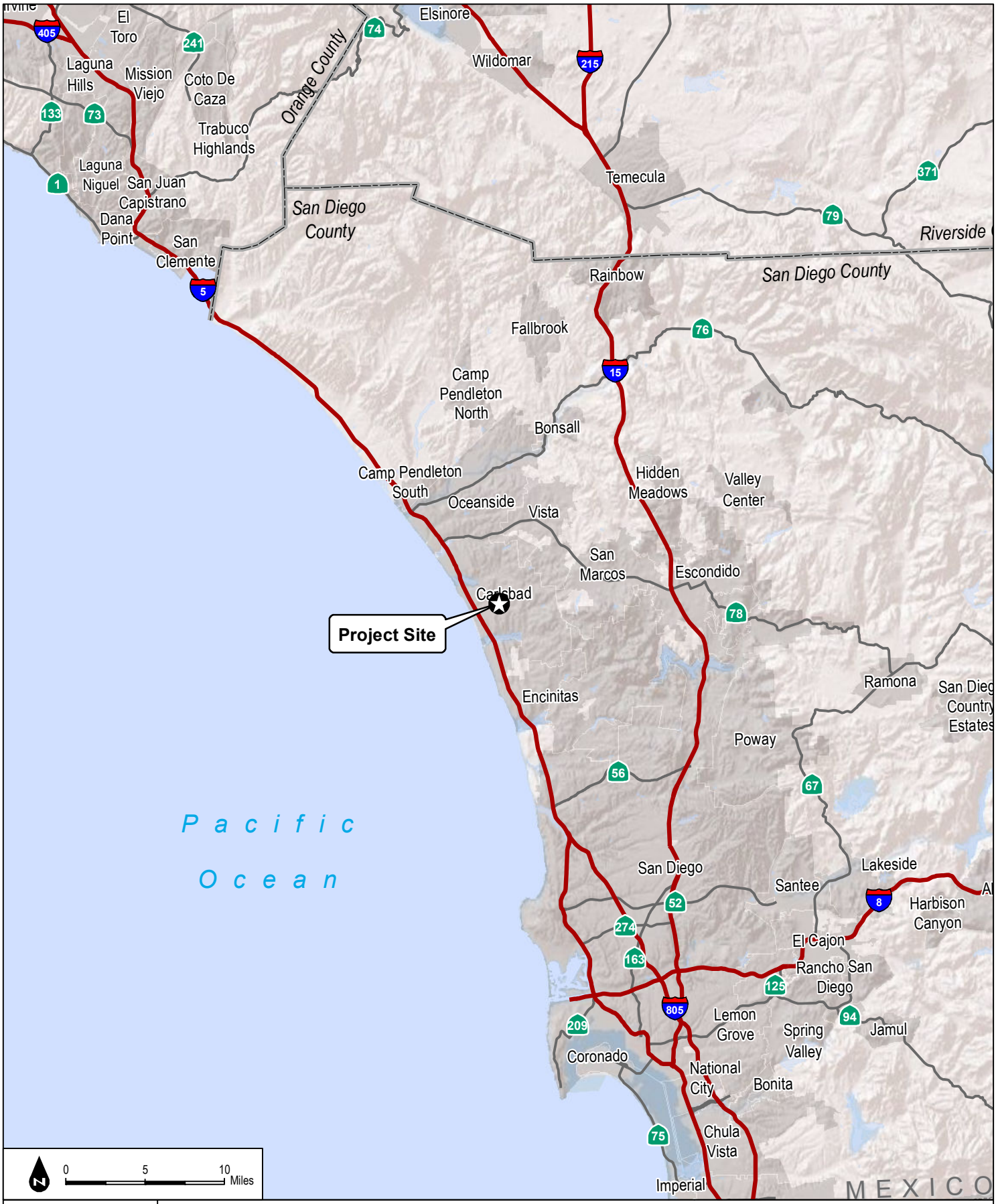
FIGURES



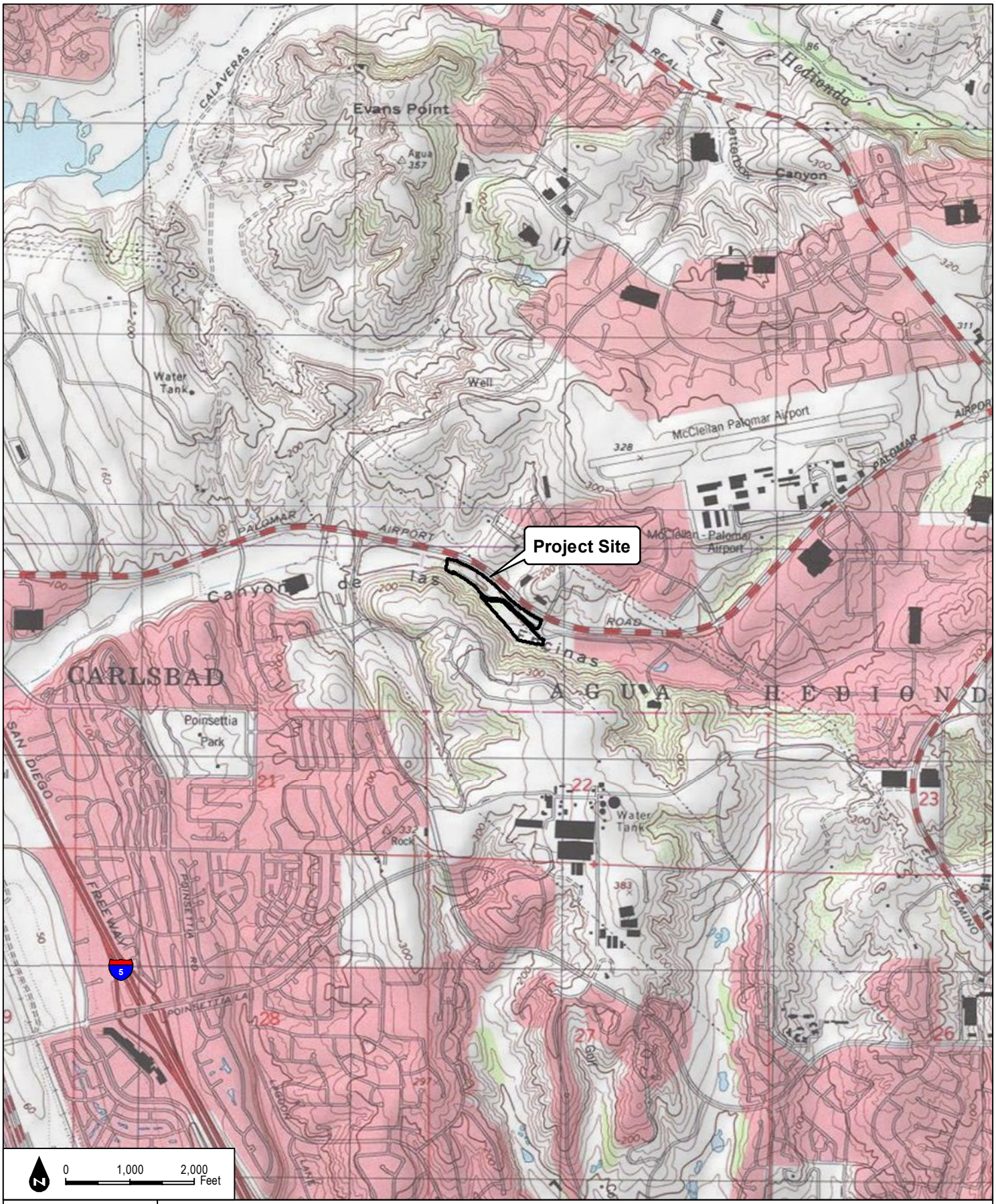
DUDEK

SOURCE: ESRI 2016

FIGURE 1

Regional Map

West Oaks Project MND



SOURCE: USGS 7.5-Minute Series Encinitas Quadrangle.

FIGURE 2

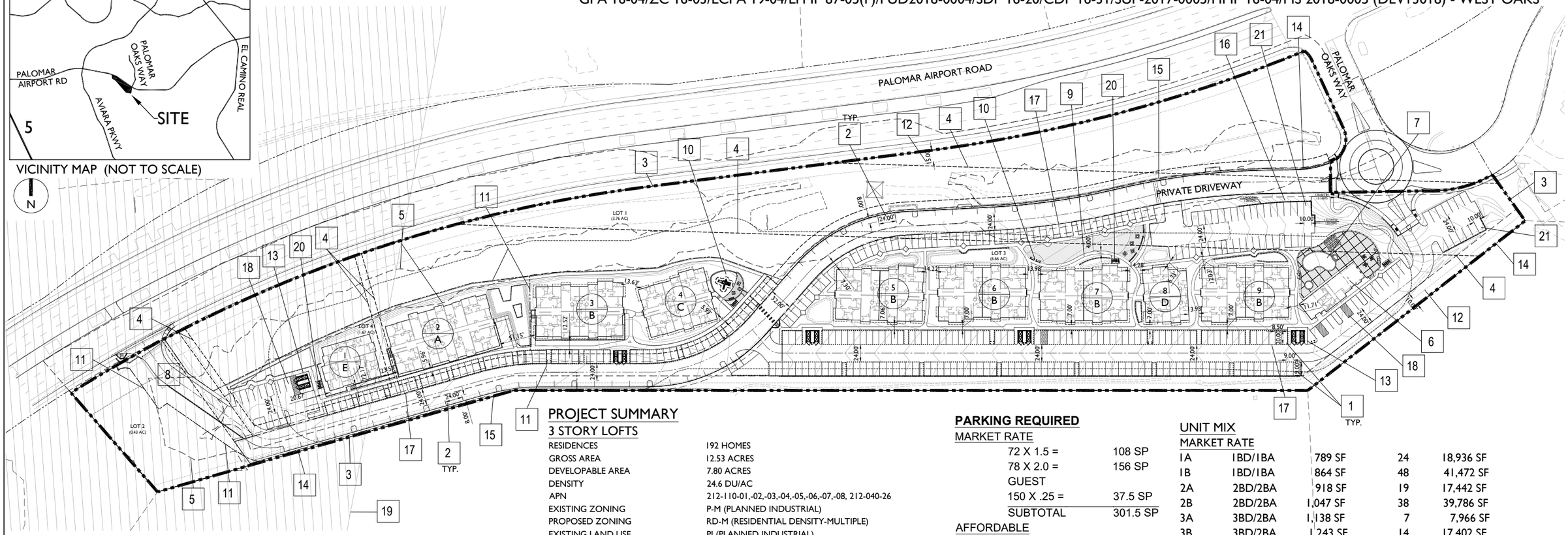
Vicinity Map

DUDEK

West Oaks Project MND

GPA 16-04/ZC 16-03/LCPA 19-04/LFMP 87-05(F)/PUD2018-0004/SDP 16-20/CDP 16-31/SUP-2017-0005/HMP 16-04/MS 2018-0005 (DEV13018) - WEST OAKS

VICINITY MAP (NOT TO SCALE)



PROJECT SUMMARY

3 STORY LOFTS

RESIDENCES	192 HOMES
GROSS AREA	12.53 ACRES
DEVELOPABLE AREA	7.80 ACRES
DENSITY	24.6 DU/AC
APN	212-110-01,-02,-03,-04,-05,-06,-07,-08, 212-040-26
EXISTING ZONING	P-M (PLANNED INDUSTRIAL)
PROPOSED ZONING	RD-M (RESIDENTIAL DENSITY-MULTIPLE)
EXISTING LAND USE	PI (PLANNED INDUSTRIAL)
PROPOSED LAND USE	R-30 (RESIDENTIAL)
LOCAL COASTAL PROGRAM	MELLO II SEGMENT
LOTS PROPOSED	4 LOTS
UNDEVELOPABLE AREA	4.73 AC
PARKING	384 SPACES
BLDG COVERAGE	12.8%
LANSCAPE AREA	23%
STORAGE	18,000 CUBIC FEET
WATER & SEWER DISTRICT	CARLSBAD MUNICIPAL WATER DISTRICT
SCHOOL DISTRICT	CARLSBAD UNIFIED SCHOOL DISTRICT
DRAINAGE DISCHARGE	73 CFS
MASTER DRAINAGE BASIN	ENCINAS

PARKING REQUIRED

MARKET RATE

72 X 1.5 =	108 SP
78 X 2.0 =	156 SP
GUEST	
150 X .25 =	37.5 SP
SUBTOTAL	301.5 SP

AFFORDABLE

24 X 1.5 =	36 SP
18 X 2.0 =	36 SP
GUEST	
42 X .25 =	10.5 SP
SUBTOTAL	82.5 SP
TOTAL REQUIRED	384 SP
	(192 COVERED)

PARKING PROVIDED

MARKET RATE

PERPENDICULAR	285 SP
PARALLEL	16 SP
SUBTOTAL	301 SP

AFFORDABLE

PERPENDICULAR	54 SP
PARALLEL	29 SP
SUBTOTAL	83 SP*
TOTAL	384 SP
	(203 COVERED)

*AFFORDABLE CONCESSION:
42 SP < 150' WALKING DISTANCE
41 SP > 300' WALKING DISTANCE

UNIT MIX

MARKET RATE

1A	1BD/1BA	789 SF	24	18,936 SF
1B	1BD/1BA	864 SF	48	41,472 SF
2A	2BD/2BA	918 SF	19	17,442 SF
2B	2BD/2BA	1,047 SF	38	39,786 SF
3A	3BD/2BA	1,138 SF	7	7,966 SF
3B	3BD/2BA	1,243 SF	14	17,402 SF
	SUBTOTAL		150	143,004 SF

AFFORDABLE

1BD/1BA	550 SF	24	13,200 SF
2BD/2BA	750 SF	12	9,000 SF
3BD/2BA	1,020 SF	6	6,120 SF
SUBTOTAL		42	28,320 SF
TOTAL		192	171,324 SF

BUILDING MIX / COVERAGE AREA

			GROSS SF	OCC. / CONST.
BLDG A	10,235 GSF	1	10,235 GSF	R-2/ VA
BLDG B	8,652 GSF	5	43,260 GSF	R-2 / VA
BLDG C	6,564 GSF	1	6,564 GSF	R-2 / VA
BLDG D	4,291 GSF	1	8,582 GSF	R-2 / VA
BLDG E	4,291 GSF	1	8,582 GSF	R-2 / VA
LEASING	2,705 GSF	1	2,705 GSF	B / VB
TOTAL		11	71,346 GSF	

TRASH ENCLOSURES

1 BIN/10 DU = 20 BINS FOR 200 DU
4 BINS PER ENCLOSURE = 5 TOTAL TRASH ENCLOSURES

LEGEND

BUILDING NUMBER — 7
BUILDING TYPE — B

SITE PLAN KEYNOTES

1	TYP. PARKING STALL(9' X 19' or 8.5' X 20')	11	LOT LINE
2	PARALLEL PARKING STALL(8' X 24')	12	SETBACK LINE
3	PROPERTY LINE	13	TRASH ENCLOSURE
4	SDG&E EASEMENT	14	SITE FENCE
5	RIPARIAN BUFFER	15	EXISTING RETAINING WALL
6	REC / LEASING BUILDING	16	PROPOSED RETAINING WALL
7	POOL	17	CARPORTS
8	EMERGENCY ACCESS	18	ACCESSIBLE PARKING STALL
9	HARDSCAPE PATHWAYS	19	AIRPORT SAFETY ZONE
10	REC AREA	20	BIKE RACK
		21	10' WIDE STALL NEXT TO WALLS

LEGAL DESCRIPTION:

LOTS 1 THROUGH 7 OF CARLSBAD TRACT NO. 82-04 PALOMAR OAKS. IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 11358, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 23, 1985.

IN ADDITION, THAT PORTION OF THAT CERTAIN PARCEL OF LAND SHOWN AND DESIGNATED AS "DESCRIPTION NO. 3, 78.07 ACRES" ON RECORD OF SURVEY MAP NO. 5715, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, DECEMBER 19, 1960, BEING A PORTION OF LOT "G" OF THE RANCHO AGUA HEDIONDA, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP NO. 823, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, NOVEMBER 16 1896.

SOURCE: FUSCOE ENGINEERING AND SUMMA ARCHITECTURE 2019

DUDEK

FIGURE 3
Proposed Site Plan

RIGHT

REAR

LEFT

*MAX BUILDING HEIGHT FROM LOWER GRADE PER CARLSBAD BUILDING HEIGHT DEFINITION (SEC. 21.04.065)

FRONT

SCALE: 0 8 16 24

MATERIAL SCHEDULE

1	ROOF - BUILT UP & COMPOSITE SHINGLE
2	WALL - STUCCO
3	WALL - BRICK VENEER
4	TRIM - 2X OVER STUCCO
5	RAILING - METAL
6	DECORATIVE - METAL AWNING
7	RAFTER TAILS
8	WALL - LAP SIDING

DUDEK

SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 4a
Building A Elevations

RIGHT

REAR

LEFT

*MAX BUILDING HEIGHT FROM LOWER GRADE PER CARLSBAD BUILDING HEIGHT DEFINITION (SEC. 21.04.065)

FRONT

SCALE: 0 8 16 24

MATERIAL SCHEDULE

1	ROOF - BUILT UP & COMPOSITE SHINGLE
2	WALL - STUCCO
3	WALL - BRICK VENEER
4	TRIM - 2X OVER STUCCO
5	RAILING - METAL
6	DECORATIVE - METAL AWNING
7	RAFTER TAILS
8	WALL - LAP SIDING

DUDEK

SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 4b
Building B Elevations

RIGHT

REAR

LEFT

*MAX BUILDING HEIGHT FROM LOWER GRADE PER CARLSBAD BUILDING HEIGHT DEFINITION (SEC. 21.04.065)

FRONT

SCALE: 0 8 16 24

MATERIAL SCHEDULE

1	ROOF - BUILT UP & COMPOSITE SHINGLE
2	WALL - STUCCO
3	WALL - BRICK VENEER
4	TRIM - 2X OVER STUCCO
5	RAILING - METAL
6	DECORATIVE - METAL AWNING
7	RAFTER TAILS
8	WALL - LAP SIDING

DUDEK

SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 4c
Building C Elevations

RIGHT

REAR

LEFT

*MAX BUILDING HEIGHT FROM LOWER GRADE PER CARLSBAD BUILDING HEIGHT DEFINITION (SEC. 21.04.065)

FRONT

SCALE: 0 8 16 24

MATERIAL SCHEDULE

1	ROOF - BUILT UP & COMPOSITE SHINGLE
2	WALL - STUCCO
3	WALL - BRICK VENEER
4	TRIM - 2X OVER STUCCO
5	RAILING - METAL
6	DECORATIVE - METAL AWNING
7	RAFTER TAILS
8	WALL - LAP SIDING

SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 4d
Building D Elevations

RIGHT

REAR

LEFT

*MAX BUILDING HEIGHT FROM LOWER GRADE PER CARLSBAD BUILDING HEIGHT DEFINITION (SEC. 21.04.065)

FRONT

MATERIAL SCHEDULE

1	ROOF - BUILT UP & COMPOSITE SHINGLE
2	WALL - STUCCO
3	WALL - BRICK VENEER
4	TRIM - 2X OVER STUCCO
5	RAILING - METAL
6	DECORATIVE - METAL AWNING
7	RAFTER TAILS
8	WALL - LAP SIDING

SCALE: 0 8 16 24

SOURCE: SUMMA ARCHITECTURE 2019

DUDEK

FIGURE 4e
Building E Elevations

RIGHT

REAR

LEFT

*MAX BUILDING HEIGHT FROM LOWER ELEVATION PER CARLSBAD BUILDING HEIGHT DEFINITION (SEC. 21.04.065)

FRONT

PERSPECTIVE

MATERIAL SCHEDULE

1	ROOF - BUILT UP & COMPOSITE SHINGLE
2	WALL - STUCCO
3	WALL - BRICK VENEER
4	TRIM - 2X OVER STUCCO
5	RAILING - METAL
6	DECORATIVE - METAL AWNING
7	RAFTER TAILS
8	WALL - LAP SIDING

SCALE: 0 8 16 24

PERSPECTIVE

SOURCE: SUMMA ARCHITECTURE 2019

DUDEK

FIGURE 4f
Leasing/Recreation Building Elevations

COLOR SCHEME A

MANUFACTURER:
SHERWIN-WILLIAMS
CORONADO STONE

STUCCO 1:

PURE WHITE SW 7005

STUCCO 2:

ACCESSIBLE BEIGE SW 7036

STUCCO 3:

GRIZZLE GRAY SW 7068

STUCCO 4:

GOLDEN FLEECE SW 6388

ACCENT:

URBANE BRONZE SW 7048

BRICK:

SPECIAL USED BRICK - BEAR CREEK

BUILDING B

BUILDING E

A-C1

SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 5a
Color Scheme A

COLOR SCHEME B

MANUFACTURER:
SHERWIN-WILLIAMS
CORONADO STONE

STUCCO 1:

PURE WHITE SW 7005

STUCCO 2:

REPOSE GRAY SW 7015

STUCCO 3:

ANONYMOUS SW 7046

STUCCO 4:

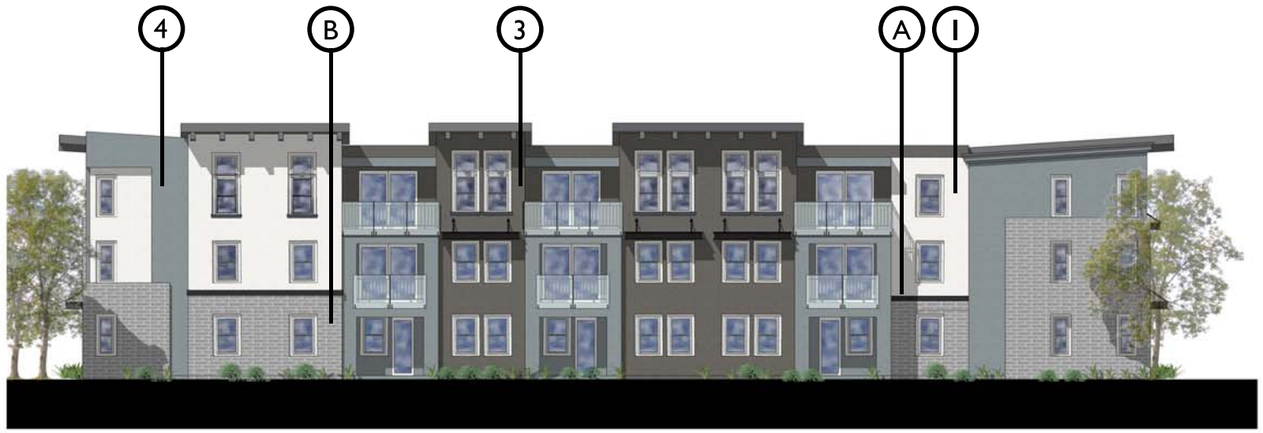
BREEZY SW 7616

ACCENT:

URBANE BRONZE SW 7048

BRICK:

SPECIAL USED BRICK - GLACIER



BUILDING A

BUILDING C

A-C2

SOURCE: SUMMA ARCHITECTURE 2019

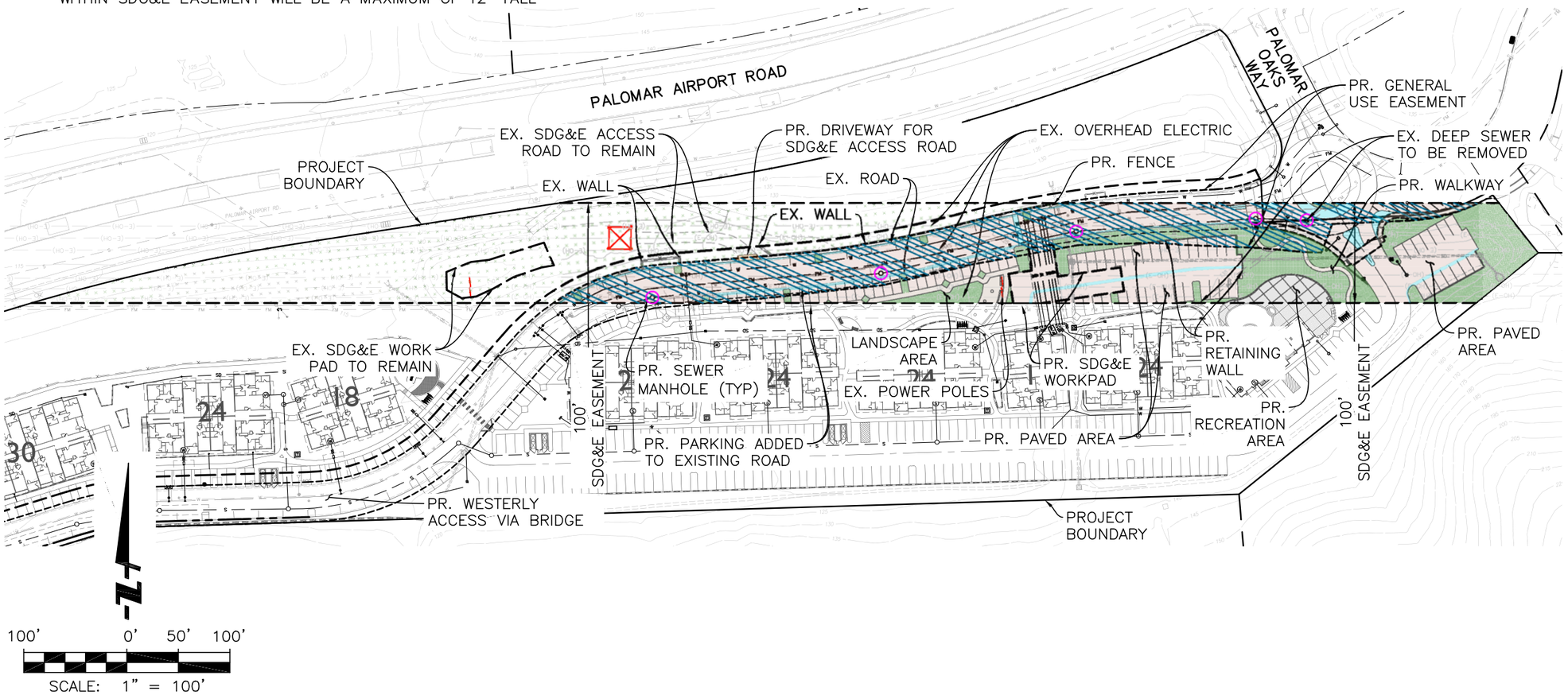
FIGURE 5b
Color Scheme B

EASEMENT ENCROACHMENTS	
EASEMENT TYPE	AREA
GENERAL USE EASEMENT FOR UTILITIES	32,768 SF

UTILITY ENCROACHMENTS		
UTILITY TYPE	QTY	SYMBOL
PROPOSED SEWER MANHOLE	5	

STREET LIGHT NOTE: EXISTING +/–25' STREET LIGHTS WITHIN SDG&E EASEMENT WILL BE REMOVED. PROPOSED STREETLIGHTS WITHIN SDG&E EASEMENT WILL BE A MAXIMUM OF 12' TALL

IMPROVEMENT ENCROACHMENT TABLE	
IMPROVEMENT TYPE	QTY
PROPOSED AC PAVEMENT	42,123 SF
EXISTING AC PAVEMENT TO REMAIN	755 SF
PROPOSED CONCRETE CURB/GUTTER	4,232 SF
PROPOSED CONCRETE DRIVEWAY	115 SF
EXISTING CONCRETE CURB/GUTTER	724 SF
CONCRETE MISC(SIDEWALK, COMMON AREA)	5,089 SF
PROPOSED PLANTER AREA	17,338 SF
NO IMPROVEMENTS PROPOSED	51,524 SF
TOTAL	121,900 SF



SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 6
SDG&E Easement Encroachment

PALOMAR AIRPORT ROAD AT PALOMAR OAKS WAY

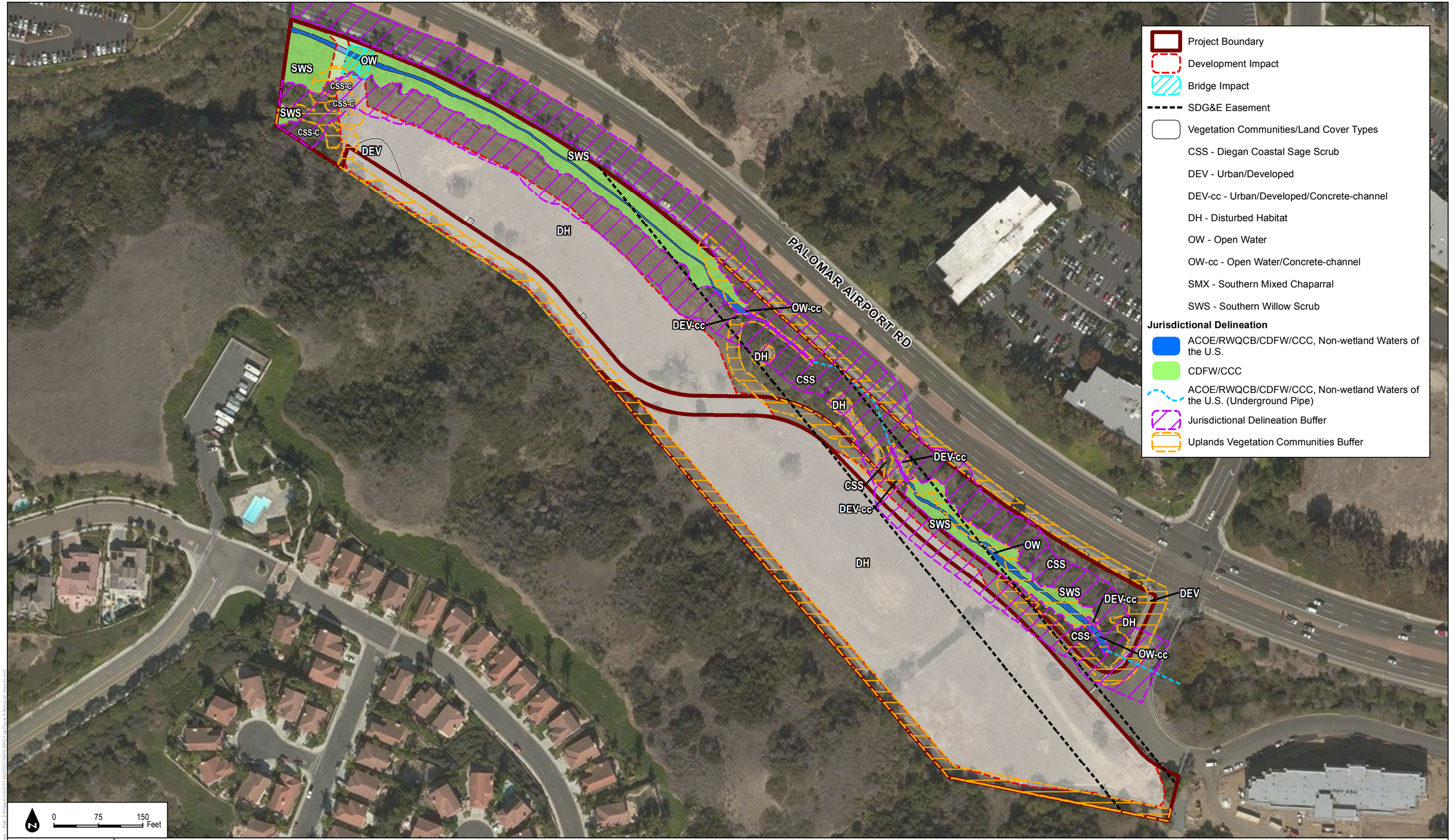
PALOMAR AIRPORT ROAD

SOURCE: SUMMA ARCHITECTURE 2019

DUDEK

FIGURE 7

Project Visual Simulation Renderings



SOURCE: Fuscoe 2018; BING MAPPING SERVICE 2016

DUDEK

West Oaks Project MND

FIGURE 8

Biological Resources Impact Map

SOURCE: AERIAL - SANDAG 1-FT IMAGERY; SITE PLAN -FUSCOE ENGINEERING 2017

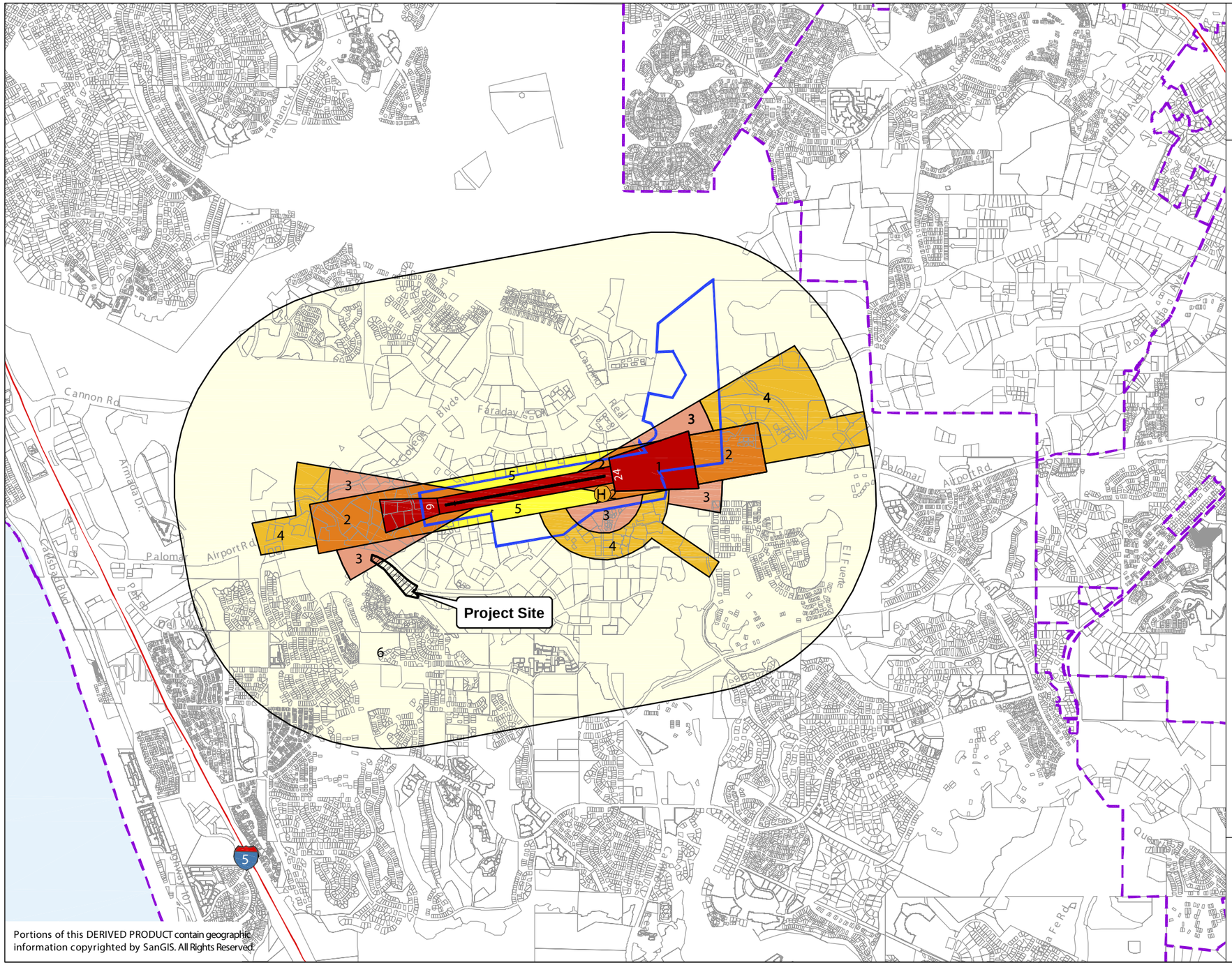
DUDEK

FIGURE 9

Tree Impacts

West Oaks Project MND

Path: Z:\Projects\j989701\MAPDOC\MAPS\Trees\Appendix_C_Tree_Impacts.mxd



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AIRPORT LAND USE COMMISSION
SAN DIEGO COUNTY

LEGEND

- Airport Property Boundary
- Parcel Line
- Highways
- Municipal Boundary
- Ⓗ Existing Heliport/Helipad

Safety Zones

- Zone 1 - Runway Protection Zone
- Zone 2 - Inner Approach/Departure Zone
- Zone 3 - Inner Turning Zone
- Zone 4 - Outer Approach/Departure Zone
- Zone 5 - Sideline Zone
- Zone 6 - Traffic Pattern Zone

north

0 3,000 ft.

Note: See Table III-2 for criteria applicable within each safety zone.

Sources: Parcels - San Diego Geographic Information Source (SanGIS), 2008.
Safety Zones - Mead & Hunt, Inc., 2008.

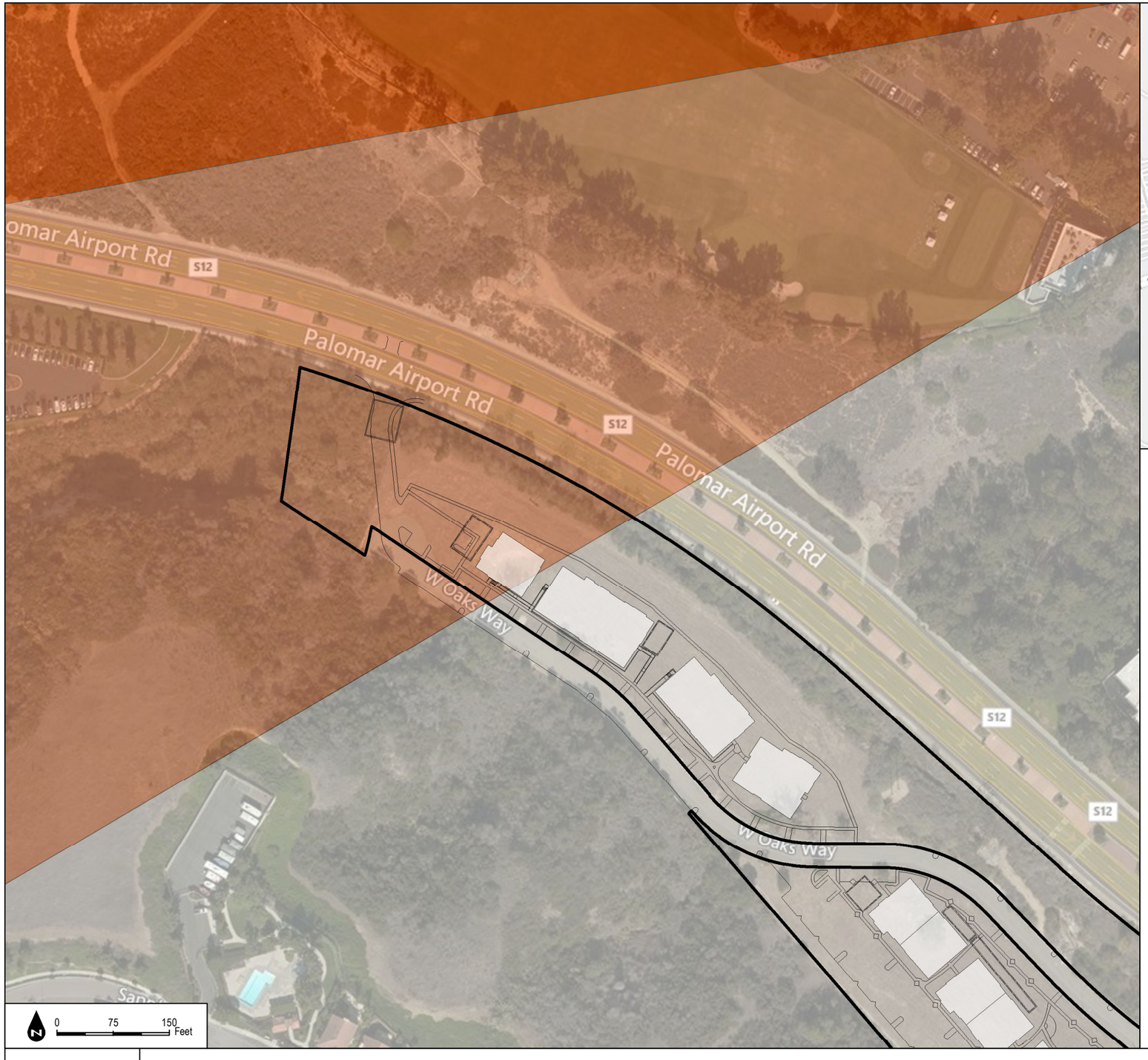
Prepared by: Ricondo & Associates, Inc., October 2009.

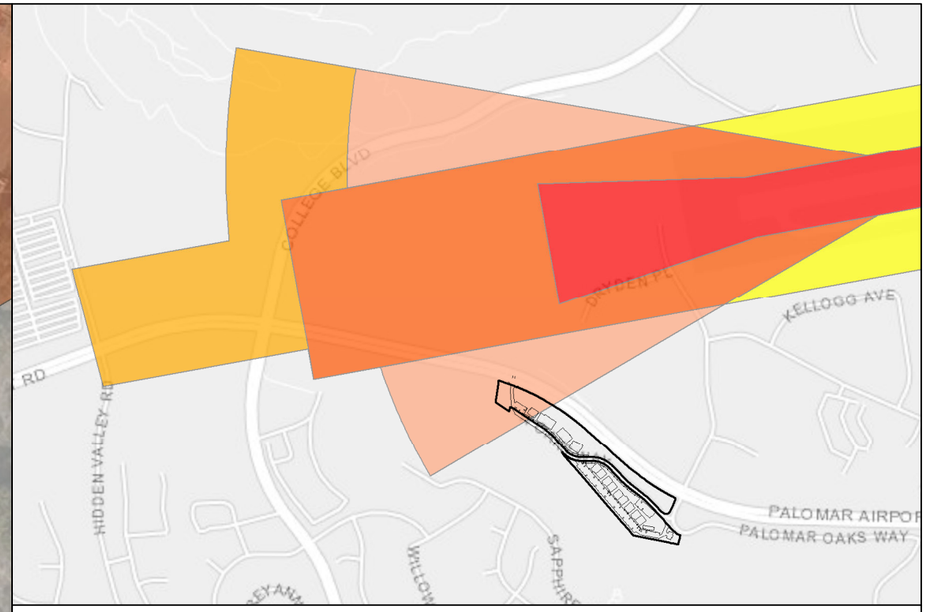
Compatibility Policy Map: Safety

DUDEK

SOURCE: SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY 2011

FIGURE 10
Airport Safety Zones





Project Boundary

Airport Safety Zones

- Zone1 - Runway Protection Zone
- Zone 2 - Inner Approach/Departure Zone
- Zone 3 - Inner Turning Zone
- Zone 4 - Outer Approach/Departure Zone
- Zone 5 - Sideline Zone
- Zone 6 - Traffic Pattern Zone

DUDEK

SOURCE: AERIAL-BING MAPPING SERVICE; SAFETY ZONES-SDCRAA 2010

West Oaks Project MND

FIGURE 11

Airport Safety Zones - Project Site Plan

SOURCE: Bing Maps (Accessed 2017); Fuscoe Engineering (2017)

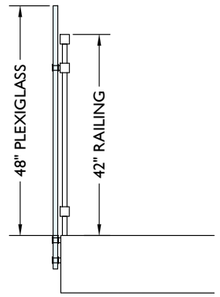
FIGURE 12

Noise Measurement and Modeling Locations

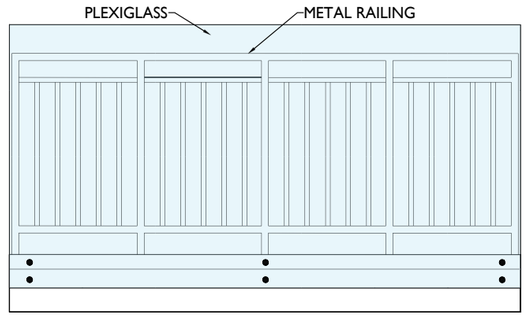
DUDEK

West Oaks Project MND

PERSPECTIVE A



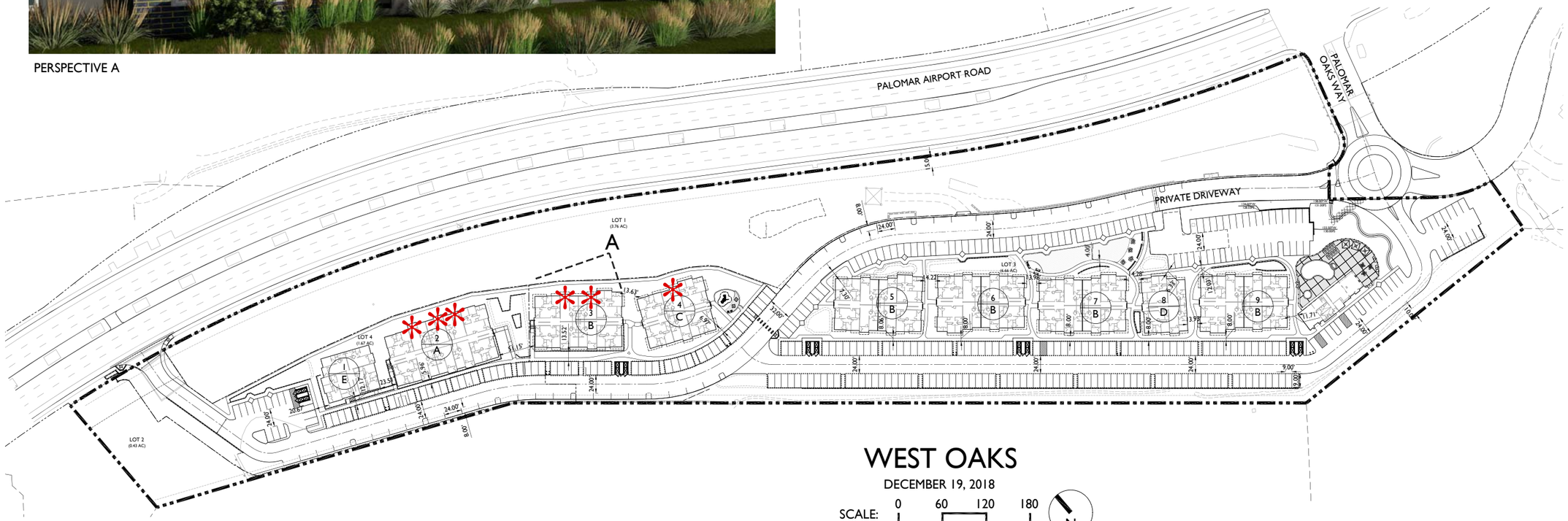
DECK RAILING SECTION



DECK RAILING ELEVATION

LEGEND

* 48" PLEXIGLASS RAIL



WEST OAKS

DECEMBER 19, 2018

SCALE: 0 60 120 180

N

SOURCE: SUMMA ARCHITECTURE 2019

FIGURE 13

Conceptual Noise Barrier Exhibit

DUDEK