PARK PLAZA MEMORY CARE

MITIGATED NEGATIVE DECLARATION NO. 1866-19

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May 2020
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C. Cultural Resources
   1. Historic Resources Report
   2. Archaeological Resources Letter

D. Energy Calculations

E. Geology & Soils
   1. Geotechnical Report
   2. Paleontological Resources Letter
F. Hazards and Hazardous Materials

1. Phase I ESA

2. Limited Phase II ESA

G. Preliminary WQMP

H. Noise Modeling Results

I. Traffic Impact Analysis
**MITIGATED NEGATIVE DECLARATION NO. 1866-19**

**Project Title:**  
Park Plaza Memory Care Expansion CUP No. 3085-19, MJSP No. 0972-19, DRC No. 4973-19, ENV No. 1866-19

**Lead Agency:**  
City of Orange  
Kelly Christensen Ribuffo, Associate Planner  
(714) 744-7223

**Project Proponent and Address:**  
KC Orange II, LP  
5790 Feet Street, Suite 300  
Carlsbad, CA 92008  
Axel Guerra  
(760) 804-7065

**Project Location:**  
574 S. Glassell Street  
Orange, CA 92866

**EXISTING SETTING**

**Regional Setting:**

The Project Site is located in the Old Towne area of the City of Orange (City), in the north-central portion of Orange County (County), approximately 12 miles northeast of the Pacific Ocean. The City shares its boundaries with the Cities of Anaheim to the north and west, Garden Grove to the west, Santa Ana to the west and south, and Tustin to the southeast. To the east of the City is unincorporated Orange County. The City of Villa Park is completely contained within the borders of Orange.

**Existing Site Conditions:**

The 0.917-acre Project Site is located at 574 S. Glassell Street and comprises Assessor’s Parcel Number (APN) 390-591-19). Regional access is provided to the Project Site via State Route 22 located approximately 0.16 miles to the south; Interstate 5 located approximately 1.3 miles to the west; and State Route 55 located approximately 1.3 miles to the east. Local access is provided via S. Glassell Street and W. La Veta Avenue. The regional and local context of the Project Site is shown on Figures 1 and 2. The Project Site is bound by the existing Park Plaza Senior Living Community to the south, S. Glassell Street to the east, a church to the north, and a sports field and storage structures to the west.
Figure 1
Regional Map
The Project Site is currently developed with a 5,959-square-foot restaurant building and a surface parking lot. Existing vehicle access to the Project Site is provided via one driveway located at the northern edge of the site from S. Glassell Street. The existing General Plan land use designation for the Project Site is Commercial, and the existing zoning for the site is C-1 (Limited Business).

**Surrounding Land Uses:**

Land uses in the vicinity of the Project Site include the existing Park Plaza Senior Living Community (mentioned previously), medical uses, and condominiums to the south; the Holy Family Cathedral Church and School, W. La Veta Avenue, and a mix of single-family residential, multi-family residential, and commercial uses to the north; residential uses to the west; and single-family residential, multi-family residential, and park uses to the east. Most structures within proximity to the Project Site are one to two stories in height.

**PROJECT DESCRIPTION**

The Project includes demolition and removal of the existing restaurant building and surface parking lot from the Project Site and development of the site with a two-story 30,113-square-foot memory care facility that is associated with the existing Park Plaza Senior Care Community located adjacent to the south. The purpose of the facility would be to provide care for residents affected by Alzheimer’s and/or other dementia related issues. The proposed care facility would include 36 beds in 28 studio units and 4 (shared) 2-bedroom units. The maximum height of the building would be 32 feet. Project plans are shown on Figures 3 through 13.

The first floor would be 15,126 square feet and would include 15 units and commons, administration, circulation, and support uses. The second floor would be 15,021 square feet and would include 17 units and commons, administration, circulation, and support uses. A courtyard and covered patio would be provided on the ground level, and a covered terrace would be provided on the second floor.

Vehicle access would be provided via one driveway located in the same location as the existing driveway, at the northern edge of the Project Site on S. Glassell Street. American’s With Disabilities Act (ADA) surface parking (2 spaces) would be provided near the northeast corner of the Project Site with the primary surface vehicle parking provided at the rear (west) of the building and would include 13 spaces.

The driveway along the northern edge of the Project Site would provide adequate access for the fire/emergency and trash pick-up access. A loading area would be maintained at the rear (west) of the building.

---

1. Although the proposed memory care facility would be associated with the existing Park Plaza Senior Care Community, the facility would be a stand-alone facility.
**Discretionary Actions**

To allow for implementation of the Project, the Project Applicant is requesting approval of the following discretionary actions from the City:

- Conditional Use Permit (CUP) to allow for development and operation of a memory care facility;
- Major Site Plan Review
- Design Review
- Adoption of the Mitigated Negative Declaration

**Other Public Agencies Whose Approval is Required (Responsible or Trustee Agencies):**

None.

**Scheduled Public Meetings or Hearings:**

Meeting: Design Review Committee

Date: March 20, 2020
Figure 4
Fire Master Plan

Source: Shelter Architects, 2019.
Figure 5
Ground Floor Plan

Source: Shelter Architects, 2019.
Figure 6
Second Floor Plan

Source: Shelter Architects, 2019.
Source: Shelter Architects, 2019.

Figure 7
Roof Plan
Figure 8

Typical Unit Plan

Source: Shelter Architects, 2019.
Figure 9
Building Sections

Source: Shelter Architects, 2019.
Figure 10
North and East Exterior Elevations

Source: Shelter Architects, 2019.
Figure 11
South and West Exterior Elevations

Source: Shelter Architects, 2019.
2. Exterior Cement Plaster Color 2
   Light Brown

3. Cementitious Board Siding
   Accent Color

4. Cultured Stone Veneer

5. Aluminum Storefront
   Window Frames,
   Vinyl Window Color, Sim

Source: Shelter Architects, 2019.
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

<table>
<thead>
<tr>
<th>Aesthetics</th>
<th>Agriculture and Forest Resources</th>
<th>Air Quality</th>
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<tr>
<td>Biological Resources</td>
<td>Cultural Resources</td>
<td>Energy</td>
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<td>Geology/Soils</td>
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<td>Hazards &amp; Hazardous Materials</td>
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<td>Hydrology/Water Quality</td>
<td>Land Use/Planning</td>
<td>Mineral Resources</td>
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<td>Noise</td>
<td>Population/Housing</td>
<td>Public Services</td>
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<td>Recreation</td>
<td>Transportation</td>
<td>Tribal Cultural Resources</td>
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<tr>
<td>Utilities/Service Systems</td>
<td>Wildfire</td>
<td>Mandatory Findings of Significance</td>
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DETERMINATION. On the basis of this initial evaluation:

1. I find that the proposed project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

2. 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 revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☑

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

4. I find that the proposed project may have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment, but at least one effect 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. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

5. I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Name, Title

Date
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 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 may be cross-referenced, as discussed below).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other 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. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

9. 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 significance.
### 1. AESTHETICS. Would the project:

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<td>Have a substantial adverse effect on a scenic vista?</td>
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<tr>
<td>(b)</td>
<td>Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a scenic highway?</td>
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<td>(c)</td>
<td>In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?</td>
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<td>☑️</td>
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<td>(d)</td>
<td>Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
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**Impact Analysis**

(a) **Would the project have a substantial adverse effect on a scenic vista?**

Scenic vistas have been identified in the Natural Resources Element of the City’s General Plan in the eastern portion of the City, where topography and open space allow far reaching views of undeveloped hillsides, ridgelines, and open space areas. The Project Site is located in the southwestern portion of the City in an already developed and urbanized area. Views in the vicinity of the Project Site are largely constrained by existing development, landscaping, and topography. No scenic vistas are available from near the Project Site. Thus, the Project would not have a substantial adverse effect on a scenic vista. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(b) **Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a scenic highway?**

No rock outcroppings are located on the Project Site. As discussed in detail in response to Checklist Question 4(a) (Cultural Resources – Historic Resources), the restaurant building on the Project Site is not a significant historic resource under CEQA. A City-designated historic tree is located adjacent to the Project Site to the northeast. As discussed in detail below in response to Checklist Question 4(e) (Biological Resources – Tree Preservation), the tree would be protected in place and with Mitigation Measures BIO-
2 and BIO-3, impacts related to preservation of this tree would be less than significant. The Project Site is located on Glassell Street, which is a thoroughfare and entrance into the City’s Old Towne Historic District. The Project Site is located adjacent to but outside of the Old Towne Historic District. Also, the site is located across Glassell Street and north of Hart Park, which is a City-designated historic resource. However, the Project would not include any direct or indirect modifications to the Old Towne Historic District or Hart Park. Additionally, the Project Site and surrounding properties (including the historic tree, Old Towne Historic District boundary near the Project Site, and Hart Park) are not visible from the nearest designated scenic highway (i.e., Santiago Canyon Road), which is approximately 5 miles away from the Project Site to the northeast. Thus, the Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a scenic highway. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(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 experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?

The Project Site is located in an urbanized area of the City and is currently developed with a restaurant building, surface parking, and ornamental landscaping. As discussed in response to Checklist Question 4(a) (Cultural Resources – Historical Resources), the existing restaurant building on the Project Site (constructed in 1962) is not considered a significant historical resource under CEQA. The Project Site, while not located within the boundaries of the Old Towne Historic District, is directly across the street from structures within the Old Towne Historic District. Also, Hart Park, across the street and just to the south, is located within the boundaries of the Old Towne Historic District.

The Project Site containing the restaurant building was initially developed at a time when the surrounding neighborhood was already in transition. In the 1960s, along Glassell Street, there were single-family residences and institutional buildings and sites, such as the Holy Family Cathedral School and Hart Park, that were built in the 1930s, and still extant orange groves to the west of the Project Site. In the mid-century, as the local population boomed, new infill, single-family residences were constructed among existing homes. By the late 1960s, Glassell Street became a major thoroughfare to on-ramps for the new Garden Grove Freeway (State Route 22). Since that time, the Project Site area has continued to evolve. Historic aerial photographs reveal that the neighborhood in which the Project Site is located underwent substantial redevelopment between the 1960s and 1990s. By 1986, a multi-story senior-living community residence was built adjacent to the south of the Project Site on the previous site of a miniature golf course that had been associated with the restaurant building on the Project Site. All of this development contributed to a change in character within the immediate neighborhood.
While modern in appearance, the Project is designed to blend visually into the setting of this transitional neighborhood and still provide a glimpse back to what the Project Site area once was. The proposed building has not been designed to replicate any historic building type, but has instead been designed to complement the surrounding neighborhood in mass, scale, appearance and material type. The two-story scale of the building is in keeping with the many buildings in the nearby Old Towne Historic District. Additionally, the use of materials such as plaster, stone and siding can be found on structures throughout the surrounding areas, and the use of aluminum storefront and entry canopy compliments the many buildings within The Plaza. The locally designated historic tree located adjacent to the Project Site would be protected and preserved and would provide additional visual connection to the remaining historic elements such as Hart Park and the nearby Old Towne Historic District.

The Cultural Resources & Historic Preservation Element of the City’s General Plan describes that part of the overall vision for the future of the City requires that “[t]he City will build upon existing assets to create a living, active, and diverse environment that compliments all lifestyles and enhances neighborhoods, without compromising the valued resources that make Orange unique.” Additionally, one of the stated goals of the Cultural Resources & Historic Preservation Element is to protect neighborhood character. The Project’s design, as proposed, would achieve both these goals.

The existing zoning for the Project Site is C-1 (Limited Business), which allows development and operation of a memory care facility on the Project Site with a Conditional Use Permit (CUP), as is being requested by the Project Applicant. At a height of 32 feet and two stories, the proposed building is consistent with the heights of the buildings located adjacent to the Project Site to the south and north. Additionally, because the Project would be associated with the existing senior living facility to the south of the Project Site, the Project would complement the surrounding area more than the existing restaurant building. Further, the Project would be subject to the City’s Design Review process, which would ensure that the Project would comply with the City’s applicable design standards. Thus, the Project would not conflict with applicable zoning or other regulations governing scenic quality. Therefore, Project impacts related to scenic quality regulations would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

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

The Project Site and surrounding area are located in an urbanized area of the City. The Project Site and surrounding area contain numerous sources of nighttime lighting, including streetlights, security lighting, illuminated signage, indoor building illumination (light emanating from the interior of structures that passes through windows), and automobile headlights. Glare is a common phenomenon in the Southern California area due mainly to the occurrence of a high number of days per year with direct sunlight and the highly-urbanized nature of the region, which results in a large concentration of potentially reflective surfaces.
Potentially reflective surfaces introduced by the Project include new windows at the Project Site and vehicles belonging to Project residents and visitors that are parked on or adjacent to the Project Site.

The Project would create additional sources of light and glare at the Project Site by removing the existing restaurant building from the Project Site and development the site with a memory care facility, which would have more lighting fixtures and windows than does the existing restaurant building. However, the Project’s exterior lighting shall be directed and controlled in a manner as to prevent glare and direct illumination on to public sidewalks or thoroughfares, as required pursuant to the Orange Municipal Code Section 17.12.030.A, to the maximum extent feasible. While the Project would increase ambient light levels in the vicinity, this increase would not be substantial. All outdoor lighting from the Project would be concealed such that it would not be visible from public view due to controlled placement of lights and proposed shielding on the light fixtures, to the maximum extent feasible. In addition, the Project Site is located in an urbanized location that is already illuminated at night and the Project would be compatible with surrounding uses. Further, all glass incorporated into building facades would be either low-reflectivity or have a non-glare coating, and buildings would be constructed with materials that have minimal potential for generating glare. With compliance with the Orange Municipal Code, the Project would limit reflective surface areas and reflectivity of architectural materials. Thus, the Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, Project impacts related to light and glare would be less than significant.
2. **AGRICULTURE AND FORESTRY RESOURCES.** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project, and the Forest Legacy Assessment project, and forest carbon measurement mythology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

<table>
<thead>
<tr>
<th>Potential Impact/Significance with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</thead>
<tbody>
<tr>
<td>(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?</td>
<td>☑️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Conflict the existing zoning for agricultural use, or a Williamson Act Contract?</td>
<td>☑️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g))?</td>
<td>☑️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>☑️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(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?</td>
<td>☑️</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Impact Analysis

(a) Would the project 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?

Important Farmland is located at the following locations in the City:

- 15 acres at the intersection of Chapman Avenue and Jamboree Road;
- 18 acres north of East Taft Avenue and east of SR-55; and
- 8 acres east of Meats Avenue and north of the City of Villa Park.

These locations are at the northern and eastern areas of the City and are not near the Project Site. No agricultural are located on or near the Project Site. Thus, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?

The Williamson Act of 1965 allows local governments to enter into contract agreements with local landowners with the purpose of trying to limit specific parcels of land to agricultural or other related open space use. The Project Site and surrounding areas are urbanized and are not subject to a Williamson Act Contract. The Project Site is zoned Limited Business and is not zoned for agricultural use. Thus, the Project would not conflict with existing zoning for agricultural use or a Williamson Act Contract. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section

4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g))? 

The Project Site is zoned Limited Business and is not zoned for forest land or timberland. The Project Site and surrounding areas are urbanized and do not contain any timberland. Thus, the Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g)). Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The Project Site and surrounding areas are urbanized and do not contain forest land. Thus, the Project would not result in the loss of forest land. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(e) Would the project 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?

The Project Site and surrounding areas are urbanized and do not contain farmland or forest land. Thus, the Project would not result in the conversion of Farmland to non-agricultural use or forest land to non-forest use. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. As with the Project, none of the cumulative projects is located on agricultural land or forest land. Thus, no cumulative impacts related to agricultural resources would occur.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None
Cumulative Impacts

As discussed previously in response to Checklist Question 1(a) (Aesthetics – Scenic Vistas), there are no scenic vistas available from locations near the Project Site. As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. The only cumulative project that is within visual proximity of the Project Site is Cumulative Project #2, which includes development of 7 single-family homes. Because there are no scenic vistas available from the Project Site area, no cumulative impacts related to scenic vistas would occur. The degree to which any of the cumulative projects could result in impact to scenic resources would be gauged by the City on a project-by-project basis. However, there are no shared scenic resources among the cumulative projects and the Project. Cumulative Project #2 would be developed within a residential neighborhood and would compatible with the existing surrounding neighborhood. Project impacts related to visual character were found to be less than significant. Thus, cumulative visual character impacts would be less than significant. All of the sites of the cumulative projects are located in an urbanized area of the City and contain existing sources of light and glare. All of the cumulative projects would be required to comply with the City’s requirements related to lighting and window material. For these reasons, cumulative impacts related to aesthetics would be less than significant.
3. **AIR QUALITY.** The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. *Would the project:*

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporate</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Conflict with or obstruct implementation of the applicable Air Quality Management Plan?</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment under an applicable federal or state ambient air quality standard?</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>(c) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Impact Analysis**

This analysis in this section is based primarily on the following (refer to Appendix A):


**Regulatory Framework**

**Federal**

**Clean Air Act**

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementing some portions of the CAA (e.g., certain mobile source and other requirements). Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies. In California, the CCAA is administered by the California Air Resources Board (CARB) at the state level and by the air quality management districts and air pollution control districts at the regional and local levels.

The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the National Ambient Air Quality Standard (NAAQS). These amendments require both a demonstration of reasonable further progress towards attainment and the incorporation of additional sanctions for failure to attain or to meet interim milestones. NAAQS have been established for seven major air pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), PM₂.₅ (particulate matter, 2.5 microns), PM₁₀ (particulate matter, 10 microns), sulfur dioxide (SO₂), and lead (Pb).
The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are shown on Table 1. USEPA has classified the Orange County portion of the South Coast Air Basin (Basin) as a nonattainment area for O₃ and PM₂.₅.

State

California Clear Air Act

In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clear Air Act (CCAA). In California the CCAA is administered by CARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the state requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the state to achieve and maintain the CAAQS. CAAQS are generally more stringent than their corresponding NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS thresholds have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the non-desert Orange County portion of the Basin is designated as a nonattainment area for O₃, PM₁₀, and PM₂.₅. The state standards and attainment/non-attainment are also shown above on Table 1.

California Air Toxics Program

CARB’s Air Toxics Program was established in 1983 in response to the adoption of AB 1807, the Toxic Air Contaminant Identification and Control Act. AB 1807 directs CARB and the State Office of Environmental Health Hazard Assessment (OEHHA) to identify toxic air contaminants (TACs) and determine whether any regulatory action is necessary to reduce their risks to public health. Substances formally identified as TACs include diesel particulate matter and environmental tobacco smoke.
<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th></th>
<th>California Standard</th>
<th>California Attainment Status</th>
<th>Federal Standard</th>
<th>Federal Attainment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone – O₃</td>
<td>1-hour</td>
<td>0.09 ppm (180 µg/m³)</td>
<td>Non-attainment</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
<td>0.070 ppm (137 µg/m³)</td>
<td>Non-attainment</td>
<td>0.070 ppm (137 µg/m³)</td>
<td>Non-attainment</td>
<td></td>
</tr>
<tr>
<td>Respirable Particulate Matter – PM₁₀</td>
<td>24-hour</td>
<td>50 µg/m³</td>
<td>Non-attainment</td>
<td>150 µg/m³</td>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>20 µg/m³</td>
<td>Non-attainment</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Fine Particulate Matter – PM₂.₅</td>
<td>24-hour</td>
<td>-</td>
<td>-</td>
<td>35 µg/m³</td>
<td>Non-attainment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
<td>12 µg/m³</td>
<td>Non-attainment</td>
<td>12 µg/m³</td>
<td>Non-attainment</td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide – CO</td>
<td>1-hour</td>
<td>20 ppm (23 mg/m³)</td>
<td>Attainment</td>
<td>35 ppm (40 mg/m³)</td>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
<td>9.0 ppm (10 mg/m³)</td>
<td>Attainment</td>
<td>9 ppm (10 mg/m³)</td>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>Nitrogen Dioxide – NO₂</td>
<td>1-hour</td>
<td>0.18 ppm (338 µg/m³)</td>
<td>Attainment</td>
<td>100 ppb (188 µg/m³)</td>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>0.030 ppm (57 µg/m³)</td>
<td>Attainment</td>
<td>53 ppb (100 µg/m³)</td>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>Sulfur Dioxide – SO₂</td>
<td>1-hour</td>
<td>0.25 ppm (655 µg/m³)</td>
<td>Attainment</td>
<td>75 ppb (196 µg/m³)</td>
<td>Attainment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>0.04 ppm (105 µg/m³)</td>
<td>Attainment</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Lead – Pb</td>
<td>30-day average</td>
<td>1.5 µg/m³</td>
<td>Attainment</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calendar Quarter</td>
<td>-</td>
<td>-</td>
<td>0.15 µg/m³</td>
<td>Attainment</td>
<td></td>
</tr>
</tbody>
</table>

Air Quality and Land Use Handbook: A Community Health Perspective

Released by CARB in 2005, the Air Quality and Land Use Handbook: A Community Health Perspective provides recommendations regarding the siting of new sensitive land uses near potential sources of TACs (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gas stations), as well as the siting of new TAC sources in proximity to existing sensitive land uses. The recommendations are advisory and should not necessarily be interpreted as defined “buffer zones”; if a project or sensitive land uses are within the siting distance, CARB recommends further analysis.

Regional

South Coast Air Quality Management District

The Project is located within the 6,745-square-mile Basin. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. It is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for air pollution control in the Basin. Specifically, SCAQMD is responsible for planning, implementing, and enforcing programs designed to attain and maintain CAAQS established by CARB and NAAQS established by the USEPA. All projects in the SCAQMD jurisdiction are subject to SCAQMD rules and regulations, including, but not limited to, the following:

- **Rule 401 Visible Emissions**: This rule prohibits air discharge that results in a plume that is as dark as or darker than what is designed as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.

- **Rule 402 Nuisance**: This rule prohibits the discharge of “such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.”

- **Rule 403 Fugitive Dust**: This rule mandates that projects reduce the amount of particulate matter entrained in the ambient air as a result of fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions from any active operation, open storage pile, or disturbed surface area.

2016 Air Quality Management Plan

The 2016 Air Quality Management Plan (2016 AQMP) was adopted in April 2017 and represents the most updated regional blueprint for achieving federal air quality standards. It relies on emissions forecasts based
on demographic and economic growth projections provided by the Southern California Association of Governments’ (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS).

Southern California Association of Governments

SCAG is the regional planning agency for Orange, Los Angeles, Ventura, Riverside, San Bernardino, and Imperial Counties that is tasked with addressing regional issues relating to transportation, the economy, community development, and the environment. As the federally designated Metropolitan Planning Organization (MPO) for the six-county Southern California region, SCAG is required by law to ensure that transportation activities conform to, and are supportive of, regional and state air quality plan goals to attain NAAQS. Additionally, SCAG is a co-producer, with the SCAQMD, of the transportation strategy and transportation control measure sections of the Basin’s AQMP. The 2016-2040 RTP/SCS recognizes that transportation investments and future land use patterns are inextricably linked, and that continued recognition of this close relationship will help the region make choices that sustain existing resources and expand efficiency, mobility, and accessibility for people across the region. In particular, the 2016-2040 RTP/SCS draws a closer connection between where people live and work, and it offers a blueprint for how Southern California can grow more sustainably.

Local

City of Orange General Plan Natural Resources Element

The City of Orange General Plan Natural Resources Element identifies policies and strategies for preserving air quality within the City, and it acknowledges the interrelationships among transportation and land use planning in meeting the City’s mobility and air quality goals. However, the goals and policies of the Natural Resources Element mainly direct and guide City action and would have limited to no applicability to the Project, which is a private land use development.

Pollutants and Effects

State and Federal Criteria Pollutants

Air quality is measured by the ambient air concentrations of seven pollutants that have been identified by the USEPA due to their potentially harmful effects on public health and the environment. These “criteria air pollutants” include CO, ground-level O₃, NOₓ, SO₂, PM₁₀ or less in diameter, PM₂.₅ microns or less in diameter, and Pb. The descriptions of each criteria air pollutant below and their health effects are based on information provided by the USEPA and the SCAQMD.₆这也


Carbon Monoxide – CO

CO is a colorless and odorless gas that is released when something is burned. Outdoors, the greatest sources of CO are cars, trucks, and other vehicles or machinery that burn fossil fuels. Unvented kerosene and gas space heaters, leaking chimneys and furnaces, and gas stoves can release CO and affect air quality indoors. Breathing air with elevated concentrations of CO reduces the amount of oxygen that can be transported via the blood stream and can lead to weakened heart contractions; as a result, CO inhalation can be particularly harmful to people with chronic heart disease. At moderate concentrations, CO inhalation can cause nausea, dizziness, and headaches. High concentrations of CO may be fatal. However, such conditions are not likely to occur outdoors.

Ozone – O₃

O₃ is a colorless gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOₓ) undergo slow photochemical reactions in the presence of ultraviolet sunlight. The greatest source of VOC and NOₓ emissions is automobile exhaust. O₃ concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperatures are favorable to its formation. Elevated levels of O₃ irritate the lungs and airways and may cause throat and chest pain, as well as coughing, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to the scarring of lung tissue and reduced lung efficiency.

Nitrogen Dioxide – NO₂

NO₂ is primarily a byproduct of fossil fuel combustion and is therefore emitted by automobiles, power plants, and industrial facilities. The principal form of nitrogen oxide produced by fossil fuel combustion is nitric oxide (NO), which reacts quickly to form NO₂, creating the mixture of NO and NO₂ commonly called NOₓ. NO₂ absorbs blue light and results in reduced visibility and a brownish-red cast to the atmosphere. NO₂ also contributes to the formation of PM₁₀. Nitrogen oxides irritate the nose and throat and increase susceptibility to respiratory infections, especially in people with asthma. Longer exposures to elevated concentrations of NO₂ may even contribute to the development of asthma. The principal concern of NOₓ is as a precursor to the formation of O₃.

Sulfur Dioxide – SO₂

Sulfur oxides (SOₓ) are compounds of sulfur and oxygen molecules. SO₂ is the pre-dominant form found in the lower atmosphere and is a product of burning sulfur or sulfur-containing materials. Major sources of SO₂ include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. SO₂ may aggravate lung diseases, especially bronchitis. It also constricts breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. SO₂ may cause wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of SO₂, and long-term exposure to both pollutants leads to higher rates of respiratory illnesses.
Particulate Matter ($PM_{10}$ and $PM_{2.5}$)

The human body naturally prevents the entry of larger particles into itself. However, smaller particles less than 10 microns ($PM_{10}$) or even less than 2.5 microns ($PM_{2.5}$) in diameter can enter the body and become trapped in the nose, throat, and upper respiratory tract. Here, these particulates may aggravate existing heart and lung diseases, affect the body’s defenses against inhaled materials, and damage lung tissue. Those most sensitive to $PM_{10}$ and $PM_{2.5}$ include children, the elderly, and those with chronic lung and/or heart disease.

Lead – $Pb$

Airborne lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting and other metal processing activities are the primary sources of Pb emissions. Pb effects most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of Pb, which may contribute to behavioral problems, learning deficits, and lowered IQ.

Toxic Air Contaminants - TACs

TACs refer to a diverse group of “non-criteria” air pollutants that can affect human health but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects tend to be local rather than regional. As discussed earlier, CARB and OEHHA determine if a substance should be formally identified, or “listed,” as a TAC in California. A complete list of these substances is maintained on CARB’s website.

One key TAC is diesel particulate matter (diesel PM), which is emitted in diesel engine exhaust. Released in May 2015 by the SCAQMD, the Multiple Air Toxics Exposure Study in the South Coast Air Basin Final Report (Mates IV) determined that about 90 percent of the carcinogenic risk from air toxics in the Basin is attributable to mobile source emissions. Of the three carcinogenic TACs that constitute the majority of the known health risk from motor vehicle traffic – diesel PM from primarily trucks, and benzene and 1,3-butadiene from passenger vehicles – diesel PM represents the majority of the potential cancer risk from vehicle traffic. Overall, diesel PM was found to account for, on average, about 68 percent of the air toxics risk in the Basin.

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6 CARB, Toxic Air Contaminant Identification List, www.arb.ca.gov/toxics/id/taclist.htm, last reviewed by CARB July 18, 2011.


8 SCAQMD, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV), May 2015.
**Volatile Organic Compounds - VOCs**

VOCs are typically formed from the combustion of fuels and/or released through the evaporation of organic liquids. Some VOCs are also classified by the state as toxic air contaminants, though there are no VOC-specific ambient air quality standards. Once emitted, VOCs can mix in the air with other pollutants (e.g. NO\textsubscript{x}, CO, SO\textsubscript{2}, etc.) and contribute to the formation of photochemical smog.

**Existing Conditions**

As discussed earlier, the Project Site is located within the 6,745-square-mile Basin that includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality within the Basin is influenced by a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry. These sources in addition to the topography and climate of Southern California combine to make the Basin an area of high air pollution potential. The USEPA has classified Orange County as a nonattainment area for O\textsubscript{3} and PM\textsubscript{2.5}, meaning that this portion of the Basin does not meet NAAQS for these pollutants. Additionally, the Orange County portion of the Basin also does not meet CAAQS for O\textsubscript{3}, PM\textsubscript{10}, and PM\textsubscript{2.5}. Table 1 summarizes CAAQS and NAAQS and the attainment status for Orange County with respect to each criteria pollutant.

**Air Quality Monitoring Data**

The SCAQMD monitors air quality conditions at 38 source receptor areas (SRA) throughout the Basin. The Project Site is located in SCAQMD’s SRA No. 17, “Central Orange County.” Table 2 shows pollutant levels, State and federal standards, and the number of exceedances recorded in SRA No. 17 from 2016 through 2018. The one-hour State standard for O\textsubscript{3} was exceeded three times during this three-year period and the federal standard was exceeded nine times. The 24-hour State standard for PM\textsubscript{10} was exceeded 33 times. The 24-hour federal standard for PM\textsubscript{2.5} was exceeded ten times. CO and NO\textsubscript{x} levels did not exceed their respective CAAQS or NAAQS during this period. SO\textsubscript{2} and lead pollutant data is not available for SRA No. 8.
Table 2
Ambient Air Quality Data – SRA No.17 “Central Orange County”

<table>
<thead>
<tr>
<th>Pollutants and State and Federal Standards</th>
<th>Maximum Concentrations and Frequencies of State/Federal Standards Exceedance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
</tr>
<tr>
<td><strong>Ozone – O.</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum 1-hour Concentration (ppm)</td>
<td>0.103</td>
</tr>
<tr>
<td>Days &gt; 0.09 ppm (State 1-hour standard)</td>
<td>2</td>
</tr>
<tr>
<td>Days &gt; 0.070 ppm (Federal 8-hour standard)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Carbon Monoxide – CO</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum 1-hour Concentration (ppm)</td>
<td>2.6</td>
</tr>
<tr>
<td>Days &gt; 20 ppm (State 1-hour standard)</td>
<td>0</td>
</tr>
<tr>
<td>Maximum 8-hour Concentration (ppm)</td>
<td>2.1</td>
</tr>
<tr>
<td>Days &gt; 9.0 ppm (State 8-hour standard)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Nitrogen Dioxide – NO.</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum 1-hour Concentration (ppm)</td>
<td>0.0643</td>
</tr>
<tr>
<td>Days &gt; 0.18 ppm (State 1-hour standard)</td>
<td>0</td>
</tr>
<tr>
<td><strong>PM₁₀</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum 24-hour Concentration (µm/m³)</td>
<td>74</td>
</tr>
<tr>
<td>Days &gt; 50 µg/m³ (State 24-hour standard)</td>
<td>3</td>
</tr>
<tr>
<td><strong>PM₂.₅</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum 24-hour Concentration (µg/m³)</td>
<td>44.45</td>
</tr>
<tr>
<td>Days &gt; 35 µg/m³ (Federal 24-hour standard)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sulfur Dioxide – SO₂</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum 24-hour Concentration (ppb)</td>
<td>N/A</td>
</tr>
<tr>
<td>Days &gt; 0.04 ppm (State 24-hour standard)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

ppm = parts per million of air, by volume
µg/m³ = micrograms per cubic meter
N/A = not available at this monitoring station.

**Existing Health Risk**

Based on the MATES IV model, the calculated cancer risk in the Project Site area is approximately 944 in a million. In general the risk near the Project Site is comparable to, if slightly below, other urbanized areas in Orange County.

---

SCAQMD, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV), MATES IV Interactive Carcinogenicity Map.
The OEHHA, on behalf of the California Environmental Protection Agency (CalEPA), provides a screening tool called CalEnvironScreen that may be used to identify California communities that are disproportionately burdened by, and vulnerable to, multiple sources of pollution. According to CalEnviroscreen 3.0, the Project’s census tract is ranked 45th to 50th percentile, which means that the Project Site’s pollution burden is relatively average in comparison to other communities within California.

**Sensitive Receptors**

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Generally speaking, sensitive land uses, or sensitive receptors, are those where sensitive individuals are most likely to spend time. Individuals most susceptible to poor air quality include children, the elderly, athletes, and those with cardiovascular and chronic respiratory diseases. As a result, sensitive receptors to air quality may include schools (i.e., elementary schools or high schools), childcare centers, parks and playgrounds, long-term health care facilities, rehabilitation facilities, convalescent facilities, retirement facilities, residences, and athletic facilities. Sensitive receptors in the vicinity of the Project Site include, but are not limited to, the following:

- **Holy Family Cathedral Residences**: This receptor consists of residential land uses for the church’s on-site religious faculty (e.g. convents, rectory, etc.). The residential building that is nearest to the Project, “Cathedral House,” is approximately 15 feet north of the Project Site at 566 S. Glassell Street.

- **Holy Family Cathedral School**: This school receptor is located at 530 S. Glassell Street and consists of sensitive classroom buildings as well as various outdoor recreational/athletic facilities. The nearest classroom building is approximately 200 feet to the north. The nearest outdoor facility is a grass field located directly west of the Project Site. Other outdoor plays areas are located at least 150 feet to the west.

- **Glassell Street Residences**: This receptor consists of residential land uses located along Glassell Street, approximately 95 feet east of the Project Site across Glassell Street.

- **Fashion Park Street Residences**: This receptor consists of residential land uses located along Fashion Park Street, approximately 350 feet west of the Project Site.

- **Park Plaza Assisted Living Facility**: This receptor includes the existing Park Plaza assisted living facilities that are located directly south of the Project Site.

- **Hart Park**: This park contains various outdoor athletic and recreational facilities. It is located approximately 200 feet southeast of the Project Site.

https://scagmdonline.maps.arcgis.com/apps/webappviewer/index.html?id=470c30bc6daf4eef6a43f0082973f45f
**Existing Project Site Emissions**

The Project Site currently contains a 5,959-square-foot restaurant building and its related surface parking. As the restaurant is no longer operational (as of December 31, 2018), the site contains no active uses and likely generates nominal, if any, anthropogenic air emissions from area, energy, mobile, or other sources. Nevertheless, emissions associated with this former use were estimated for comparison purposes and are shown on Table 3.

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>VOC</th>
<th>NOx</th>
<th>CO</th>
<th>SOx</th>
<th>PM₁₀</th>
<th>PM₂·₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Energy</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Mobile Sources</td>
<td>1</td>
<td>4</td>
<td>13</td>
<td>&lt;1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td><strong>Net Regional Total</strong></td>
<td><strong>1</strong></td>
<td><strong>5</strong></td>
<td><strong>14</strong></td>
<td><strong>&lt;1</strong></td>
<td><strong>4</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

*Source: NTEC, 2019, based on CalEEMod 2016.3.2 model runs.*

**Project Impacts**

**Methodology**

The analysis below focuses on the potential change in air quality conditions that could result from the Project’s construction- and operations-related air pollutant emissions. Specific methodologies used to evaluate these emissions are discussed below.

**Construction**

Construction of the Project could affect local and regional air quality due to the use of heavy-duty gasoline and diesel-powered construction equipment, as well as the generation of construction vehicle trips. Demolition, grading, and site preparation activities would also result in fugitive dust emissions. It is important to consider that construction emissions can vary substantially from day to day depending on levels of construction activity, the specific types of construction activities taking place and vehicles/equipment in use, and, for dust, the prevailing weather conditions.

Based on the criteria set forth in the SCAQMD CEQA Air Quality Handbook, a project would have the potential to violate an air quality standard or contribute substantially to an existing violation and result in a significant impact with regard to construction emissions if its regional emissions from both direct and indirect construction sources would exceed the threshold levels shown on Table 3.

SCAQMD localized significance thresholds (LSTs) are also included below on Table 4. LSTs represent the maximum emissions from a project that would not be expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards. They are developed based on
the ambient concentrations of a given pollutant for a source receptor and distances to the nearest sensitive receptor. The SCAQMD provides LSTs for NO\textsubscript{X}, CO, PM\textsubscript{10}, and PM\textsubscript{2.5}. The SCAQMD does not provide a LST for SO\textsubscript{2} because land use development projects typically result in negligible construction and long-term operational emissions of this pollutant. Additionally, because VOCs are not a criteria pollutant, there is no ambient standard or SCAQMD LST for VOCs. However, due to the role that VOCs play in \( \text{O}_3 \) formation and their classification as a precursor pollutant, a regional emissions threshold has been established. LSTs for the Project were obtained via the SCAQMD’s mass rate look-up tables, which are used to determine whether or not a project may generate significant adverse localized air quality impacts.

### Table 4

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Construction Emissions (lbs per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regional</td>
</tr>
<tr>
<td>Volatile Organic Compounds – VOCs</td>
<td>75</td>
</tr>
<tr>
<td>Nitrogen Oxides - NO\textsubscript{X}</td>
<td>100</td>
</tr>
<tr>
<td>Carbon Monoxide – CO</td>
<td>550</td>
</tr>
<tr>
<td>Sulfur Oxides - SO\textsubscript{X}</td>
<td>150</td>
</tr>
<tr>
<td>Respirable Particulates – PM\textsubscript{10}</td>
<td>150</td>
</tr>
<tr>
<td>Fine Particulates – PM\textsubscript{2.5}</td>
<td>55</td>
</tr>
</tbody>
</table>

- Localized significance thresholds assumed a 1-acre and 25-meter (82-foot) receptor distance, which are the smallest site and shortest distance used for analysis in the LST guidance document. The SCAQMD has not developed LST values for VOC or SO\textsubscript{2}. The Project is located in SRA No. 17, “Central Orange County.”

Sources: SCAQMD, Air Quality Significance Thresholds, revised April 2019; and, SCAQMD, LST Methodology Appendix C – Mass Rate LST Look-Up Table, October 2009.

The Project’s construction-related emissions were estimated using SCAQMD’s CalEEMod 2016.3.2 model. Modeling results are included in Appendix A. The analysis assumes that all construction activities would comply with SCAQMD Rule 403 for fugitive dust, as is mandatory for all construction projects in the Basin.

**Operations**

The SCAQMD has also established significance thresholds to evaluate potential impacts associated with long-term project operations. Regional thresholds and LSTs for Project operations are shown on Table 5. Operational emissions for the Project were also calculated using CalEEMod 2016.3.2.
Table 5
SCAQMD Operational Emissions Thresholds

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Operational Emissions (lbs per day)</th>
<th>Regional</th>
<th>Localized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile Organic Compounds - VOCs</td>
<td>55</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nitrogen Oxides - NOx</td>
<td>55</td>
<td>81</td>
<td>-</td>
</tr>
<tr>
<td>Carbon Monoxide – CO</td>
<td>550</td>
<td>485</td>
<td>-</td>
</tr>
<tr>
<td>Sulfur Oxides - SOx</td>
<td>150</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Respirable Particulates – PM10</td>
<td>150</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Fine Particulates – PM2.5</td>
<td>55</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

* Localized significance thresholds assumed a 1-acre and 25-meter (82-foot) receptor distance, which are the smallest site and shortest distance used for analysis in the LST guidance document. The SCAQMD has not developed LST values for VOC or SOx. The Project is located in SRA No. 17, “Central Orange County.”

Sources: SCAQMD, Air Quality Significance Thresholds, revised April 2019; and, SCAQMD, LST Methodology Appendix C – Mass Rate LST Look-Up Table, October 2009.

TACs (Construction and Operations)

Potential TAC impacts are evaluated by conducting a qualitative analysis consistent with the CARB Handbook, followed by a more detailed analysis (i.e., dispersion modeling), as necessary. The qualitative analysis consists of reviewing the Project to identify any new or modified TAC emissions sources. If the qualitative evaluation does not rule out significant impacts from a new source, or modification of an existing TAC emissions source, a more detailed analysis is conducted.

(a) Would the project conflict with or obstruct implementation of the applicable Air Quality Management Plan?

The analysis below assesses the Project’s consistency with the SCAQMD’s 2016 AQMP and SCAG’s 2016-2040 RTP/SCS. As discussed earlier, the 2016 AQMP’s projections for achieving State and federal air quality goals are based on population, housing, and employment trend assumptions in SCAG’s 2016-2040 RTP/SCS, which are themselves largely based on local growth forecasts from local government; therefore, a project is consistent with the 2016 AQMP, in part, if it is consistent with the population, housing, and employment assumptions and smart growth policies that were used in the formation of the AQMP.

The Project’s development of a 36-bed memory care/assisted living facility would not exceed the growth assumptions of the 2016-2040 RTP/SCS. The Project Site is designated C1 (Limited Business) by the local zoning ordinance, a designation which permits senior housing and similar uses. As such, the 2016-2040 RTP/SCS’s growth assumptions for the City accommodate the proposed use on the Project Site.

Development of the Project would also be consistent with the smart growth policies of the 2016-2040 RTP/SCS to increase housing and employment density within close proximity to HQTAs. Though the
Project Site is not currently located within a HQTA, the Project Site is in an area that is at the forefront of an emerging HQTA, projected to encompass the Project Site area by 2040, according to the 2016-2040 RTP/SCS. The Orange County Transportation Authority (OCTA) 59 bus route, which includes stops within 350 feet of the Project Site, provides service generally along the Glassell Street/Grand Avenue corridor between University of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center. As such, though the Project Site’s location does not currently meet the definitions of a HQTA, it is nevertheless located within close proximity to a HQTA and is projected to be located within a HQTA by 2040.

To summarize the analysis in response to Checklist Question 3(a): (1) Project-related growth would be consistent with 2016 AQMP projections that are themselves based on 2016-2040 RTP/SCS projections; (2) the Project Site’s location near a HQTA that is projected to encompass the Project Site by 2040 would be consistent with the latest regional land use planning strategies to reduce VMT and associated air emissions; and (3) as discussed in response to Checklist Question 3(b) (Air Quality – Cumulatively Considerable Net Increase in Criteria Pollutants), pollutant emissions associated with the Project’s construction and operations would not exceed or contribute to any exceedance of ambient air quality standards and thresholds, nor would they interfere with the AQMP’s attainment of air quality standards or interim emissions reductions. As a result, the Project would not conflict with or obstruct the implementation of any applicable air quality plans. Therefore, Project impacts related to AQMP consistency would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

**(b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment under an applicable federal or state ambient air quality standard?**

The Project would contribute to local and regional air pollutant emissions during its construction (short-term) and operations (long-term). However, as discussed in the analysis below, construction and operation of the Project would not result in exceedances of SCAQMD daily thresholds for project-specific impacts that could subsequently cause cumulatively considerable increases in emissions of pollutants for which the Basin is designated as non-attainment.

**Construction Emissions**

Construction of the Project is anticipated to take approximately 17 months. During this time, a variety of heavy-duty diesel-powered vehicles and equipment would be operated on-site. Demolition of the existing site uses would likely require an excavator, as well as a loader, bulldozer, or another similar grading vehicle. Grading for the Project would require similar vehicles, as well as a grader. During the demolition and
excavation phases, haul trucks would be utilized to transport demolished materials and any cut soils to a nearby landfill. The building construction phase could require vehicles such as a forklift and a crane or truck-mounted crane. Table 6 summarizes the potential construction schedule that was used to model the Project’s air quality impacts.

Table 6
Approximate Construction Schedule

<table>
<thead>
<tr>
<th>Phase</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demolition and Site Prep.</td>
<td>1.5 months</td>
</tr>
<tr>
<td>Grading</td>
<td>1.5 months</td>
</tr>
<tr>
<td>Building Construction</td>
<td>14 months</td>
</tr>
<tr>
<td>Architectural Coatings</td>
<td>2 months</td>
</tr>
</tbody>
</table>

*The application of architectural coatings would overlap with building construction.*

The Project’s daily regional and local emissions from construction, as estimated using SCAQMD’s CalEEMod 2016.3.2 model, are shown on Table 7. Regional thresholds and LSTs for each air pollutant are also shown for comparison. As shown, the Project’s unmitigated regional construction emissions would not exceed SCAQMD regional significance thresholds for VOC, NOx, CO, SOx, PM10, or PM2.5. Local emissions also would not exceed SCAQMD LSTs for NOx, CO, PM10, or PM2.5. As a result, the Project’s construction emissions impacts related to regional and localized air quality would be less than significant.

Table 7
Regional and Localized Construction Emissions

<table>
<thead>
<tr>
<th></th>
<th>VOC</th>
<th>NOx</th>
<th>CO</th>
<th>SOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regional Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>2</td>
<td>16</td>
<td>13</td>
<td>&lt;1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2021</td>
<td>2</td>
<td>14</td>
<td>15</td>
<td>&lt;1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Maximum Regional Emissions</td>
<td>2</td>
<td>16</td>
<td>15</td>
<td>&lt;1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Regional Daily Threshold</td>
<td>75</td>
<td>100</td>
<td>550</td>
<td>150</td>
<td>150</td>
<td>55</td>
</tr>
<tr>
<td><strong>Exceed Threshold?</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>VOC</th>
<th>NOx</th>
<th>CO</th>
<th>SOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Localized Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>1</td>
<td>16</td>
<td>12</td>
<td>&lt;1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2021</td>
<td>1</td>
<td>11</td>
<td>11</td>
<td>&lt;1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Maximum Localized Emissions</td>
<td>1</td>
<td>16</td>
<td>12</td>
<td>&lt;1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Localized Significance Threshold</td>
<td>-</td>
<td>81</td>
<td>485</td>
<td>-</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Exceed Threshold?</strong></td>
<td>-</td>
<td>No</td>
<td>No</td>
<td>-</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

*Source: NTEC, 2019, based on CalEEMod 2016.3.2 model runs. LST analysis based on 1-acre site with 25-meter distances to receptors in SRA No. 17, “Central Orange County.”*
Operational Emissions

Emissions associated with the Project’s operation were also calculated using CalEEMod 2016.3.2. As shown on Table 8, the Project would not introduce any new major sources of air pollution; emissions would not exceed SCAQMD’s regional significance thresholds for VOC, NO\_x, CO, PM\_10, and PM\_2.5, nor would they exceed SCAQMD LSTs for NO\_x, CO, PM\_10, or PM\_2.5. As a result, the Project’s operations emissions impacts related to regional and localized air quality would be less than significant.

Table 8
Regional and Localized Operational Emissions

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>VOC</th>
<th>NO_x</th>
<th>CO</th>
<th>SO_x</th>
<th>PM_10</th>
<th>PM_2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>3</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Energy</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Mobile Sources</td>
<td>&lt;1</td>
<td>1</td>
<td>4</td>
<td>&lt;1</td>
<td>1</td>
<td>&lt;1</td>
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<tr>
<td>Project Regional Emissions</td>
<td>&lt;1</td>
<td>1</td>
<td>6</td>
<td>&lt;1</td>
<td>1</td>
<td>&lt;1</td>
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<tr>
<td>Regional Daily Thresholds</td>
<td>55</td>
<td>55</td>
<td>550</td>
<td>150</td>
<td>150</td>
<td>55</td>
</tr>
<tr>
<td>Exceed Threshold?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

| Project Localized Emissions           | <1  | <1    | 3  | <1    | <1     | <1      |
| Localized Significance Thresholds     | -   | 81    | 485| -     | 1      | 1       |
| Exceed Threshold?                     | -   | No    | No | -     | No     | No      |

Source: NTEC, 2019, based on CalEEMod 2016.3.2 model runs. LST analysis based on 1-acre site with 25-meter distances to receptors in SRA No. 17, “Central Orange County.”

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

(c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction Emissions

As discussed in the response to Checklist Question 3(b) (Air Quality – Cumulatively Considerable Net Increase in Criteria Pollutants), the Project’s construction emissions would not exceed the SCAQMD’s regional significance thresholds. Construction emissions also would not exceed SCAQMD LSTs, meaning that nearby sensitive receptors generally located within 25 meters of the Project would not be exposed to substantial pollutant concentrations that would present a public health concern.

The primary TAC that would be generated by construction activities is diesel PM, which would be released from the exhaust pipes of diesel-powered construction vehicles and equipment. According to SCAQMD methodology, health risks from carcinogenic air toxics such as diesel PM are usually quantified in terms of individual cancer risk. “Individual Cancer Risk” is the likelihood that a person exposed to concentrations
of TACs over a 30-year period will contract cancer based on the use of standard risk-assessment methodology. However, the anticipated duration of construction activities associated with the Project’s implementation is approximately 17 months, and daily diesel PM emissions would vary considerably day by day, and by phase. After the initial three months of demolition and grading, the daily on-site activities of heavy-duty diesel-powered construction vehicles would reduce substantially. No residual emissions and corresponding individual cancer risk are anticipated after construction. As a result, construction of the Project would not expose sensitive receptors to substantial diesel PM or other pollutant concentrations. Therefore, the Project’s construction impacts related to sensitive receptors would be less than significant.

Operational Emissions

As also discussed in the response to Checklist Question 3(b) (Air Quality – Cumulatively Considerable Net Increase in Criteria Pollutants), the Project’s operational emissions would not exceed SCAQMD regional significance thresholds or LSTs.

Additionally, the Project does not propose typical sources of acutely and chronically hazardous TACs such as industrial manufacturing processes, automotive repair facilities, or warehouse distribution facilities. As a result, the Project’s operations would not warrant the need for a health risk assessment, and this impact would be less than significant.

Though the Project would generate traffic that produces and contributes to off-site emissions, Project traffic generation would not result in exceedances of CO air quality standards at nearby roadways due to three key factors. First, CO hotspots are rare and only occur in the presence of unusual atmospheric conditions and extremely cold conditions, neither of which applies to the Project area. Second, auto-related emissions of CO continue to decline because of advances in fuel combustion technology and the increasing penetration of this technology in the vehicle fleet. As shown on Table 2, CO levels in the Project Site area are well-below federal and state standards, as are CO levels in the Basin itself. No exceedances of CO have been recorded at nearby monitoring stations for some time, and the Basin is currently designated as a CO attainment area for both CAAQS and NAAQS. Finally, the Project would not contribute to the levels of congestion and emissions necessary to trigger a potential CO hotspot. In fact, the Project would result in a net decrease of 320 vehicle trips per day. Project traffic would not significantly impact any nearby intersections. Thus, the Project would not expose sensitive receptors to substantial CO concentrations as a result of CO hotspots. Therefore, the Project’s operational impacts related to sensitive receptors would be less than significant.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

\[\text{Linscott, Law & Greenspan, Engineers. Traffic Impact Analysis – Park Plaza Memory Care Project. June 2019.}\]
(d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No other emissions, including objectionable odors, would be anticipated as a result of the construction or operations of the Project. Project construction would involve the use of conventional building materials typical to construction projects of similar type and size. Any odors that may be generated during construction would be localized and temporary in nature and would not be sufficient to affect a substantial number of people. With regard to Project operations, the Project proposes a 36-bed memory care/assisted living facility, which is not a land use frequently associated with odor complaints (e.g., agricultural uses, wastewater treatment facilities, food processing facilities, etc.). As a result, the Project would not result in other emissions, including objectionable odors, adversely affecting a substantial number of people. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

**Cumulative Impacts**

As discussed in response to Checklist Question 3(b) (Air Quality – Cumulatively Considerable Net Increase in Criteria Pollutants), the Project would not result in cumulative considerable air quality impacts.
4. **BIOLOGICAL RESOURCES.**

Would the project:

<table>
<thead>
<tr>
<th>Question</th>
<th>Impact Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</td>
<td>☒</td>
</tr>
<tr>
<td>(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the local or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</td>
<td>☒</td>
</tr>
<tr>
<td>(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?</td>
<td>☒</td>
</tr>
<tr>
<td>(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?</td>
<td>☒</td>
</tr>
<tr>
<td>(e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?</td>
<td>☒</td>
</tr>
<tr>
<td>(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?</td>
<td>☒</td>
</tr>
</tbody>
</table>

**Impact Analysis**

(a) **Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

The Project Site and surrounding area are located in an urbanized portion of the City. The Project Site is entirely developed with a restaurant building, surface parking, and ornamental landscaping, and does not contain any special status species or any habitat that would support special status species. Thus, the Project would not have a substantial adverse effect, either directly or through habitat modification, on any species.
identified as a candidate, sensitive, or special status species. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the local or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The Project Site and surrounding area are located in an urbanized portion of the City. The Project Site is developed with a restaurant building, surface parking, and ornamental landscaping. The Project Site does not contain any riparian habitat or other sensitive natural community. Thus, the Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the local or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(c) Would the project 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?

The Project Site and surrounding area are located in an urbanized portion of the City. The Project Site is developed with a restaurant building, surface parking, and ornamental landscaping. The Project Site does not contain any wetlands. Thus, the Project would not 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. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Although the majority of the City is characterized by urbanized areas with low habitat value for wildlife, the City’s primary functional wildlife corridors are Santiago Creek through the center of the City; the northeastern portion of the City and the Southern California Edison (SCE) utility corridors, which link with Santiago Oaks Park; preserved hillsides and ridgelines in the southeastern portion of the City that link with
Peters Canyon Park; and East Orange undeveloped areas (Irvine Ranch Land Reserve and the Orange County Central/Coastal Natural Community Conservation Planning Area [NCCP]). There are no NCCP Habitat Reserve, Non-Reserve Open Space, or Special Linkage designations in or around the Project Site.

The Project Site and surrounding area are located in an urbanized portion of the City. The Project Site is developed with a restaurant building, surface parking, and ornamental landscaping. There are no waterways on or adjacent to the Project Site. The Project Site is not part of a migratory corridor and is not located near any native wildlife nursery sites. Thus, the Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

However, as discussed in response to Checklist Question 4(e) (Biological Resources – Tree Preservation), two mature silk oak trees (Grevillea robusta), which are approximately 90 feet tall, located on the eastern portion of the Project Site would be removed as part of the Project. It is possible that birds protected by the Migratory Bird Species Act (MBTA) and the California Fish and Game Code (FGC) could use these trees for nesting/breeding. The MBTA and the FGC render it unlawful to take native breeding birds, and their nests, eggs, and young. The Project has the potential to result in direct impacts on breeding birds if construction activities occur during the bird breeding season (February 1st through September 15th) and birds are nesting within the Project Site and/or immediate vicinity at that time. Temporary direct impacts on breeding birds could occur from increased noise, vibration, and dust during construction, which could adversely affect the breeding behavior of some birds, and lead to the loss (take) of eggs and chicks or nest abandonment. For these reasons, Project construction during bird breeding season could have potentially significant impacts on nesting birds.

Mitigation Measure BIO-1 includes recommendations for Project construction outside of bird breeding season (February 1st through September 15th) and precautions for construction during breeding season that include a pre-construction nesting bird survey of the site prior to the start of construction. The mitigation measure also provides recommendations if nesting birds are found on-site, including the complete avoidance of active nests until young have fledged. The implementation of Mitigation Measure BIO-1 would help to avoid, eliminate, or reduce direct impacts on breeding/nesting birds to less than significant levels. Therefore, with mitigation, Project impacts related to breeding/nesting birds would be less than significant.

**Significance Determination:** Less Than Significant With Mitigation Incorporated

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11 Page 5.4-12 in City of Orange General Plan Program EIR: https://www.cityoforange.org/DocumentCenter/View/584/General-Plan-Environmental-Impact-Report-EIR-PDF.

12 Figure 5.4-2, NCCP Habitat Reserve Area, in City of Orange General Plan Program EIR: https://www.cityoforange.org/DocumentCenter/View/584/General-Plan-Environmental-Impact-Report-EIR-PDF.
Mitigation Measures:

BIO-1: Construction during Breeding Season and Pre-construction Breeding Bird Surveys

- Project activities that would remove or disturb potential nest sites shall be scheduled outside the breeding bird season, if feasible. The breeding bird nesting season is typically from February 1st through September 15th, but can vary slightly from year to year, usually depending on weather conditions. Removing all physical features that could potentially serve as nest sites outside of the breeding bird season shall be conducted to prevent birds from nesting within the Project Site during the breeding season and during construction activities.

- If Project activities that would remove or disturb potential nest sites cannot be avoided during February 1st through September 15th, a qualified biologist would conduct a pre-construction clearance and nesting bird survey to search for all potential nesting areas, breeding birds, and active nests or nest sites within the limits of Project disturbance up to seven days prior to mobilization, staging and other disturbances. It shall end no more than three days prior to vegetation, substrate, and structure removal and/or disturbance.

- If no breeding birds or active nests are observed during the pre-construction survey, or if they are observed and would not be disturbed, then Project activities may begin and no further mitigation would be required.

- If an active bird nest is located during the pre-construction survey and potentially would be disturbed, a no-activity buffer zone shall be delineated on maps and marked (flagging or other means) up to 500 feet for special-status avian species and raptors, or 75 feet for non-special status avian species. The limits of the buffer shall be demarcated as to not provide a specific indicator of the location of the nest to predators or people. Materials used to demarcate the nests shall be removed as soon as work is complete or the fledglings have left the nest. The biologist shall determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species, because some bird species are more tolerant than others to noise and other disturbances. Buffer zones shall not be disturbed until a qualified biologist determines that the nest is inactive. Additionally, the area shall not be disturbed until the young have fledged, the parents are no longer feeding the young, the young have left the area, or the young would no longer be impacted by Project activities.

- Birds or their active nests shall not be disturbed, captured, handled or moved. Inactive nests may be moved by a qualified biologist, if necessary, to avoid disturbance by Project activities.

Significance Determination After Mitigation: Less Than Significant
(e) Would the project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

The analysis in this section is based in part on the following (refer to Appendix B):


The City’s Master Street Tree Plan and the Tree Preservation Ordinance are the primary local measures to protect biological resources. The Master Street Tree Plan and the Tree Preservation Ordinance are effective procedures to monitor the potential for impacts to existing trees that provide roosting and nesting habitat for native and migratory birds throughout the City. Chapter 12.32 of the City’s Municipal Code establishes a Tree Preservation Program for the City, which includes the preservation of historic trees. This chapter defines historical trees as those, which by virtue of their origin, size, uniqueness, and/or national or regional rarity are now or are likely to be of historical value. Trees determined to be historic are compiled on a master list, which is maintained by the Community Services Department and approved by resolution of the City Council.

A Protected Tree Report was prepared for the Project (refer to Appendix B) to assess what on- and off-site trees could be affected by the Project and to identify measures to protect trees that would not be removed as part of the Project. There are four trees that would be affected by the Project: two silk oak trees (*Grevillea robusta*) located on the eastern portion of the Project Site and two trees that are off-site but near the Project Site boundary, including an Aleppo pine tree (*Pinus halepensis*) located at the northcentral boundary of the Project Site and a large Moreton Bay Fig (*Ficus macrophulla*) (refer to Figure 14). Information regarding the condition of the trees is included on Table 9.

The two silk oak trees would be removed as part of the Project through the City’s tree-removal permit process. The two off-site trees (i.e., the Moreton bay fig and the Aleppo pine tree) are proposed to be protected in place.

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Page 5.5-16, in City of Orange General Plan Program EIR: https://www.cityoforange.org/DocumentCenter/View/584/General-Plan-Environmental-Impact-Report-EIR-PDF.
<table>
<thead>
<tr>
<th>Tree Tag</th>
<th>Tree Tag</th>
<th>Tree Species</th>
<th>Condition</th>
<th>DBH</th>
<th>Height (feet)</th>
<th>Canopy Width (feet)</th>
<th>Suitability for Preservation</th>
<th>Fencing Type</th>
<th>Tree Fencing Dimensions</th>
<th>Recommendation</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1</td>
<td>Moreton Bay Fig</td>
<td><em>Ficus macrophylla</em></td>
<td>Good</td>
<td>12.5’</td>
<td>80</td>
<td>150x142</td>
<td>High</td>
<td>Type I</td>
<td>15’ outside dripline of tree</td>
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<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Aleppo Pin</td>
<td><em>Pinus halepensis</em></td>
<td>Fair</td>
<td>21”</td>
<td>25</td>
<td>30x34</td>
<td>High</td>
<td>Type I</td>
<td>10’ outside dripline of tree</td>
<td>Protect</td>
<td>Browning on needles</td>
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<tr>
<td>3</td>
<td>Silk Oak Tree</td>
<td><em>Grevillea robusta</em></td>
<td>Fair</td>
<td>45”</td>
<td>90</td>
<td>30x32</td>
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<td>Remove</td>
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<tr>
<td>4</td>
<td>Silk Oak Tree</td>
<td><em>Grevillea robusta</em></td>
<td>Fair</td>
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<td>90</td>
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<td>Low</td>
<td>NA</td>
<td>NA</td>
<td>Remove</td>
<td>-</td>
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</tbody>
</table>

The Moreton Bay Fig tree is designated as a historic tree in the City. The tree reportedly originated in Australia and was brought to America by the early settlers. Moreton Bay Fig trees are nearly extinct, and when they remain, it is very rare. The Native Daughters of the Goldenwest have dedicated a landmark plaque near the tree to honor Henri F. Gardner, a pioneer who planted the tree at its location on March 6, 1875. The land on which the church, the rectory and the school stand (i.e., the property located to the north of the Project Site) was originally owned by the Gardner Family. As indicated on Table 9, the tree is approximately 80 feet tall, with a canopy width of approximately 150 feet by 142 feet, and is in “good” condition.

The Aleppo pine tree is approximately 25 feet tall, with a canopy width of approximately 30 feet by 34 feet, and is considered to be in “fair” condition, experiencing browning on needles.

If care is not taken during the Project’s construction phase, the root system of these off-site trees could be damaged, potentially resulting in significant impacts to the trees. Lowering the grade around trees can have an immediate and long-term effect on trees. Typically, most tree roots are within the top 3 feet of soil, and most of the fine roots active in water and nutrient absorption are in the top 12 inches. Construction activities near trees may have long-term effects on the trees. Trees vary in their ability to adapt to altered growing conditions. Mature trees can have established stable biological systems in the pre-existing physical environment. Disruption of this environment by construction activities interrupts the tree’s physiological processes causing depletion of energy reserves and a decline in vigor, which may result in a tree’s death. Typically, this reaction develops between one to five years, but symptoms may not show for many years after injurious disruption. For the Moreton Bay Fig tree, it is estimated that approximately 15 percent of the root zone under the tree canopy would be affected by the Project’s construction-related ground-disturbing activities.

To ensure that construction activities associated with the Project do not damage the two referenced off-site trees, implementation of Mitigation Measures BIO-2 and BIO-3 would be required. These measures include monitoring of the Project’s ground-disturbing activities in the vicinity of the off-site trees by a qualified arborist to ensure that the tree protection measures outlined in the mitigation measures are followed. The tree protection measures would provide for the physical protective barriers to control site disturbances and activities such as grading, demolition, building, hardscape and landscape construction, infrastructure and utility installation, maintenance, or other changes near the trees.

In addition, the Project includes the installation of Biaxial Geogrid material within the proposed driveway area of the Project over the root system of the two off-site trees. This material is a stiff synthetic permeable material, consisting of sets of tensile ribs pre-tensioned in two directions to allow pinning down of surrounding soil, stone, and/or other material. The Biaxial Geogrid material will be placed over the roots to minimize the potential for root and soil compaction due to use of the driveway and to improve irrigation filtration for the trees.

Through use of the Biaxial Geogrid material compliance with Mitigation Measures BIO-2 and BIO-3, Project impacts related to trees would be less than significant.
Significance Determination: Less Than Significant with Mitigation Incorporated

Mitigation Measures:

BIO-2: The Project Applicant shall retain a qualified Arborist to oversee protection of the off-site trees during the applicable Project construction phases.

BIO-3: The Project Applicant shall implement all of the tree protection measures and recommendations outlined in the Protected Tree Report.

Design Guidelines—Site, Grading & Improvements

1. Project plans shall delineate a tree protection zone (TPZ) according to the dimensions shown on Table 1 of the Protected Tree Report. The TPZ shall be delineated as the boundary extending 15 feet outside of the dripline of the Moreton Bay Fig tree and the Aleppo pine tree as determined by the Project Arborist.

2. In the TPZ, all trenching, soil scraping, compaction, mass grading, finish-grading, over excavation, sub excavation, swales, bio swales, storm drains, equipment cleaning, stockpiling/dumping of materials, and equipment operation shall be avoided. Where an impact encroaches slightly within a setback, it can be reviewed on a case-by-case basis by the Project Arborist to determine appropriate protection measures.

3. All existing unused lines, pipes, and vaults within the TPZ shall be abandoned and cut off at existing grade rather than being dug up and causing subsequent root damage.

4. The permanent and temporary drainage design, including downspouts, shall not require water being discharged within the TPZ. The drainage shall not require trenching for storm drains or swales within the TPZ.

5. Underground utilities and services shall be routed beyond the TPZ.

6. The future staging area and route(s) of access shall not be in TPZ.

7. Restrict spoils and runoff from traveling into root zones, the Project’s erosion control design shall establish silt fencing or straw wattles (or comparable material) along the TPZ fencing.

Design Guidelines—Proposed Landscape Design

1. Irrigation shall not spray the trunk.

2. Irrigation, valves, and lighting features shall be placed so that no trenching occurs within the TPZ.
3. New property fencing and fence posts shall be placed at least 2 feet from the tree trunk.

4. Groundcover beneath the canopy shall comprise 5-inch layer of wood chips or other high-quality mulch. Keep mulch at least 6 inches from trunk.

5. Tilling, ripping, and compaction within the TPZ shall be avoided.

6. Bender board or other edging material proposed beneath the canopy shall be placed at existing grade.

7. Roots with diameters of 2 inches or greater shall not be damaged or cut without prior assessment of the Project Arborist.

8. All tools shall be sanitized in between root cuts for roots that 0.5 inches and larger. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol.

**During Demolition and Construction**

1. Tree trunks shall not be used as winch supports for moving or lifting heavy loads.

2. The removal of existing features within the TPZ shall be carefully performed to avoid excavating into root zones.

3. Roots with diameters of 2 inches or greater should not be damaged or cut without prior assessment of the Project Arborist.

4. All tools shall be sanitized in between root cuts. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol.

5. Supplemental water shall be provided as determined by the Project Arborist to help mitigate root loss/disturbance.

6. Spoils created during digging shall not be piled or spread on unpaved ground within the TPZ.

7. Digging holes for fence posts within the TPZ shall be manually performed. In the event a root of 2 inches or greater in diameter is encountered, the process should be shifted over by 12 inches and the process repeated.

8. Great care shall be taken by equipment operators to position their equipment to avoid the trunks of protected trees. The Project Arborist shall be consulted to provide a feasible solution if needed.
9. Dust accumulating on trunks and canopies during dry weather periods shall be periodically washed away every 3 to 4 months. Dust accumulating on trunks and canopies after grading shall also be washed at the completion of the grading.

10. The disposal of harmful products shall be prohibited beneath the canopies. Herbicide shall not be used within the TPZ on site or shall be labeled for safe use near trees.

**Grading Limitations within the Tree Protection Zone**

1. Grade changes within the TPZ shall not permitted. Tilling, ripping, and compaction within the TPZ shall be avoided.

2. Grade changes outside the TPZ shall not significantly alter drainage.

3. Grade changes under specifically approved circumstances shall not allow more than 6 inches of fill soil or allow more than 4 inches of existing soil to be removed from natural grade, unless mitigated.

4. Grade fills over 6 inches or impervious overlay shall incorporate an approved permanent aeration system, permeable material, or other approved mitigation.

5. Grade cuts exceeding 4 inches shall incorporate retaining walls or an appropriate transition equivalent.

(f) **Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

There are no NCCP Habitat Reserve, Non-Reserve Open Space, or Special Linkage designations in or around the Project Site. The Project Site and surrounding area are located in an urbanized portion of the City. The Project Site is developed with a restaurant building, surface parking, and ornamental landscaping. Thus, the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None
Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. All of the related projects are located on developed sites and within an urbanized area of the City. None of the sites of the cumulative projects contains protected biological resources. The degree to which any trees would be removed/replaced would be addressed by the City on a project-by-project basis. Therefore, no significant cumulative impacts related to biological resources would occur.
5. **CULTURAL RESOURCES:** Would the project:

<table>
<thead>
<tr>
<th>Impact Analysis</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cause a substantial adverse change in significance of a historical resource pursuant to State CEQA Guidelines §15064.5?</td>
<td>☑</td>
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<tr>
<td>b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?</td>
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<tr>
<td>c. Disturb any human remains, including those interred outside of dedicated cemeteries?</td>
<td></td>
<td></td>
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**Impact Analysis**

(a) Cause a substantial adverse change in significance of a historical resource pursuant to State CEQA Guidelines §15064.5?

The analysis in this section is based primarily on the following (refer to Appendix C):


**Direct Impacts**

**Regulatory Framework**

Generally, a lead agency must consider a property a historical resource under CEQA if it is eligible for listing in the California Register of Historical Resources (California Register). The California Register is modeled after the National Register of Historic Places (National Register). Furthermore, a property is presumed to be historically significant if it is listed in a local register of historical resources or has been identified as historically significant in a historic resources survey (provided certain criteria and requirements are satisfied) unless a preponderance of evidence demonstrates that the property is not historically or culturally significant. The National Register, California Register, and local designation programs are discussed below.

**National Register of Historic Places**

The National Register is “an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment.”
Criteria

To be eligible for listing in the National Register, a property must be at least 50 years of age (unless the property is of “exceptional importance”) and possess significance in American history and culture, architecture, or archaeology. A property of potential significance must meet one or more of the following four established criteria:

A. Associated with events that have made a significant contribution to the broad patterns of our history; or

B. Associated with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Yield, or may be likely to yield, information important in prehistory or history.

California Register of Historical Resources

The California Register is an authoritative guide used by state and local agencies, private groups, and citizens to identify historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse impacts.

The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register and those formally Determined Eligible for the National Register;

- State Historical Landmarks from No. 0770 onward; and

- Those California Points of Historical Interest that have been evaluated by the State Office of Historic Preservation (SOHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.

Criteria and Integrity

For those properties not automatically listed, the criteria for eligibility of listing in the California Register are based upon National Register criteria, but are identified as 1-4 instead of A-D. To be eligible for listing in the California Register, a property generally must be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of the following four criteria:
1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or

2. It is associated with the lives of persons important to local, California, or national history; or

3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or

4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

Properties eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. A property less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance. While the enabling legislation for the California Register is less rigorous with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance.

The California Register may also include properties identified during historic resource surveys. However, the survey must meet all of the following criteria:

1. The survey has been or will be included in the State Historic Resources Inventory;

2. The survey and the survey documentation were prepared in accordance with office [SOHP] procedures and requirements;

3. The resource is evaluated and determined by the office [SOHP] to have a significance rating of Category 1 to 5 on a DPR Form 523; and

4. If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource.

**Environmental Setting**

The Project Site is developed with a restaurant that was originally connected to a miniature golf course on the adjacent land to the south. The property is located on S. Glassell St., which leads directly south from the Plaza that was the geographic and commercial heart of the town of Orange (incorporated in 1888).

The property consists of a restaurant building with a landscaped setback to the east (along S. Glassell St.) and an adjacent parking lot to the rear (west). A driveway along the north side provides access to the rear parking lot. The building is set at an angle to the street, with its south corner lying very close to the south property line. A large three-story apartment building lies to the south of the Project Site, on the former site of a miniature golf course with which the restaurant building was formerly associated. The property of Holy Family Cathedral and school lies north of the Project Site.
The restaurant was constructed in 1962 and was known as Kim’s Family Restaurant. The architect of the building was William E. Swank and Associates of Orange.

The restaurant (and to a greater extent, the golf course) was originally Tiki themed, however, there was very little such material remaining on the façade. Character-defining features that associate the property with its 1962 origins include: A-frame roof/massing, siting of the building in an angular position relative to the street, lava rock and Palos Verdes stone planters and wall cladding, front trellis, and small areas of bamboo trim remaining on the rear doorways (which faced the golf course). Aside from the distinctive A-frame shape that the building retains, the building is compromised in its ability to convey its significance.

The senior housing apartment building adjacent to the south, which replaced the golf course, received its entitlements in 1985, and the golf course was removed by 1986.

**Evaluation of Historical Significance**

The property was evaluated for its eligibility for local historical designation with reference to the City of Orange General Plan Section for Cultural Resources and Historic Preservation. The City does not have specific criteria for local designation, but employs the criteria of the National Register of Historic Places and the California Register of Historical Resources (the City has other mechanisms for the designation of historic districts and historic preservation zoning overlays that are not relevant to the possible significance of this property). The property is evaluated under each of the California Register criteria, which mirror those of the National Register, below.

**Criterion 1:** Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

The property has the potential for association with the historical theme of family dining and recreation in post-war Orange County. This context has not been studied and documented to the point where there is enough information to evaluate a minor example such as this. To use the example of the Tiki theme, at least two examples have been listed in the National Register, but these were especially significant examples that had changed very little since their period of significance and serve as a testament to the role of Tiki in popular post-war culture. There is no apparent equivalent cultural value to this property.

Further, because the golf course was, arguably, the greater and more unique draw for this property as a recreational venue, its loss significantly diminishes its ability to convey any significance under the theme of post-war family recreation. The golf course was also much larger than the restaurant and appears to have carried the Tiki or Polynesian theme throughout. Therefore, along with the loss of any Tiki or Polynesian features that may have identified the restaurant and tied it into the theme, most of the theme was eliminated with the loss of the golf course.

Due to the property’s inability to convey its significance in contributing to broad patterns of local history, it is not eligible under Criterion 1.

**Criterion 2:** Associated with the lives of persons important to local, California or national history.
No single historical person came to light with whom the property would be significantly associated. The property is not eligible under this criterion.

**Criterion 3:** Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.

The property’s architect, William E. Swank, is not established as a well-known practitioner of the period who could be considered a “master architect,” and the building does not “(possess) high artistic values.”

The property may once have embodied the “distinctive characteristics of a type,” serving as an example of the architectural type of an A-frame. However, it does not exhibit the cultural associations that make A-frame restaurants of historical interest due to its lack of integrity: while it is difficult to pinpoint its alterations due to lack of available evidence of its historical appearance, the property has changed businesses many times, the original pole sign no longer exists, and the entrance area does not retain the materials and decoration that the original restaurant apparently possessed (according to what little evidence we have of its early years), even if it was only minimally Tiki in its styling.

More importantly, the development of the property had two significant components that appear to have been conceived and constructed together in order to express a theme and function that both would convey: that of a Tiki or Polynesian recreational and dining environment. With the loss of the golf course, the ability of the property to convey its significance is substantially diminished. The setting of the building is no longer what it was – a restaurant set within a golf course – and the function of the building is different as well since it is a freestanding restaurant business and no longer a part of a recreational unit that would have conveyed considerably more aesthetic information about popular architecture in early 1960s Orange County.

The property is not eligible under Criterion 3 due to the lack of significance in its architect or its artistic values. It is also not eligible because of its inability to convey its significance through its embodiment of the built history of a type, period, or region.

**Criterion 4:** Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

This criterion applies mainly to potential archaeological resources.

This evaluation shows that the property was formerly a minimally Tiki-themed restaurant associated with a miniature golf course. While the context of such properties is an emerging area of historical interest in Orange County’s recent past, the Historical Resources Study found that this theme is not well documented and that the historic integrity of the property appears to be too low to contribute in a meaningful way to our understanding of the theme.
**Historic Integrity**

Historic Integrity is defined as the ability of a property to convey its historic significance, expressed through surviving characteristics that it obtained during its period of significance. Broadly speaking, the early 1960s appearance of the building represents its period of significance. The following seven aspects of historic integrity – location, setting, design, materials, workmanship, feeling, and association – are defined by the National Park Service for use in the evaluation of properties for the National Register, and are also used as a guideline in many other designation programs. The historic integrity of 574 S. Glassell St. is analyzed below.

**Location:**

The property has not been moved and maintains integrity of location.

**Setting:**

The property’s setting has been compromised by the loss of the miniature golf course with which it was associated and its replacement with a large apartment building close to the south property line. It is clear from the 1963 aerial view on page 8 that the golf course and restaurant were sited so as to complement one another. The golf course functioned in part as the setting of the restaurant and gave it thematic and recreational meaning. Without this relationship, it is simply a restaurant, which does not reflect its historic use or setting.

**Design:**

The property may maintain integrity of design, but there is little in the public record to document its original appearance or any alterations. An A-frame typically takes advantage of the contrast between the solid roof and the non-load-bearing end walls; no such element of the design remains present. The overall shape of the exaggerated, A-frame roof is its most important feature and remains intact, but any information about the building from its historical period contained in the building’s decorative scheme appears to have been lost. The removal of the adjacent golf course also affected the integrity of design of the property as it was historically, since during that period the restaurant was a part of the larger miniature golf complex and related directly to the golf course.

**Materials:**

With so little documentation available, it is not known whether the building retains integrity of materials. However, this is unlikely to be an important factor in the property’s potential significance.

**Workmanship:**

As for materials, there is not enough information available to determine the building contained significant workmanship or whether it maintains integrity of workmanship; the workmanship also is unlikely to be an important factor in the property’s potential significance.
Feeling:

The building does not possess historic feeling. There is very little in the way of exterior features to identify the building with its early period or character. While still used as a restaurant, the building has little to convey about the early 1960s when it was constructed. This is due to both the alterations to the building itself (the loss of any thematic decoration) and to the compromised setting, with the loss of the golf course that completed the complex historically and its replacement with a large apartment building directly next to the restaurant.

Association:

The building’s association with the historical theme of mid-century themed family dining and recreation is tenuous due to the lack of integrity noted for the aspects above. In addition to the golf course’s role as the physical setting of the restaurant, it also would have had more to communicate about the family recreation themes that the property once represented. The restaurant on its own, as noted above, does not carry the associations of the recreation complex of which it was historically a part.

Conclusion

The Historic Resources Report found that the property at 574 S. Glassell St. is not eligible for the California Register and thus, is not a historic resource for purposes of CEQA. The property was once a Tiki-style restaurant associated with a neighboring miniature golf course. If intact, such a property might represent an important theme in the post-World War II culture of Southern California, and Orange County in particular. However, the miniature golf course no longer exists, and the restaurant lacks the character-defining features that would associate it with emerging historical and architectural contexts of popular culture in 1960s Orange County. The property lacks significance due to an inability to express these themes and provide information about local history. Thus, the Project would not cause a substantial adverse change in significance of a historical resource pursuant to State CEQA Guidelines §15064.5. Therefore, no direct impacts related to historic resources would occur as a result of the Project.

Moreton Bay Fig Tree

As discussed previously in response to Checklist Question 4(e) (Biological Resources – Tree Preservation), the Moreton Bay Fig tree that is located directly adjacent to the northeastern boundary of the Project Site is designated as a historic tree in the City. The tree reportedly originated in Australia and was brought to America by the early settlers. Moreton Bay Fig trees are nearly extinct, and when they remain, it is very rare. The Native Daughters of the Goldenwest have dedicated a landmark plaque near the tree to honor Henri F. Gardner, a pioneer who planted the tree at its location on March 6, 1875. The land on which the church, the rectory and the school stand (i.e., the property located to the north of the Project Site) was originally owned by the Gardner Family. As indicated on Table 9, the tree is approximately 80 feet tall, with a canopy width of approximately 150 feet by 142 feet, and is in “good” condition.

As discussed in detail in response to Checklist Question 4(e) (Biological Resources – Tree Preservation), if care is not taken during the ground-disturbing activities as part of the Project’s construction phase, root
damage to the tree could occur and could detrimentally affect the health of the tree and the significance of the tree as a historic resources. However, Mitigation Measures BIO-2 and BIO-3 would ensure protection of the tree in place and would ensure that no significant impacts to the tree would occur. Therefore, with implementation of Mitigation Measures BIO-2 and BIO-3, potential impacts of the Project on historic resources would be less than significant.

**Significance Determination:** Less Than Significant With Mitigation Incorporated

**Mitigation Measures:** Refer to Mitigation Measures BIO-2 through BIO-3 under response to Checklist Question 4(b) (Biological Resources – Tree Preservation).

**Significance Determination After Mitigation:** Less Than Significant

(b) Would the project cause a substantial adverse change in significance of an archaeological resource pursuant to *State CEQA Guidelines §15064.5*?

The Project Site is currently developed with a restaurant building and a surface parking lot. The Project Site is in an urbanized area of the City and is surrounded by a mix of residential, commercial/retail, education, and office uses. The Project Site has already been subject to construction and ground-disturbing activities similar to those which would occur under the Project. According to the cultural resources records search for the Project Site (refer to Appendix C), no archaeological sites have been recorded on or within a 0.5-mile radius of the Project Site. Five historical resources have been identified within a 0.5-mile radius. Additionally, the Figure 5.5-2 (Historial Archaeology Sensitivity) of the City’s General Plan EIR notes that a Chinese Boarding Area (1875-1921) has been identified in the area of the Project Site. Also, the Project Site is located just south of a sensitive area identified by the City as Early Town Development (1870s-1880s). As such, it is possible that unknown archaeological resources could exist at the Project Site and could be encountered during ground-disturbing activities associated with Project construction. If proper care is not taken, significant impacts to unknown archaeological resources could occur. However, the Project Applicant would be required to implement Mitigation Measure CUL-1, which provides direction for the proper recordation of previously undiscovered archaeological resources, should such resources be found during Project construction activities. Implementation of Mitigation Measure CUL-1 would ensure that the Project would not cause a substantial adverse change in significance of an archaeological resource pursuant to *State CEQA Guidelines §15064.5*. Therefore, with mitigation, Project impacts related to archaeological resources would be less than significant.

**Significance Determination:** Less Than Significant With Mitigation Incorporated

**Mitigation Measures:**

**CUL-1:** In the event a potentially significant cultural resource is encountered during earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering the materials until a qualified archaeologist who meets the Secretary of Interior’s Professional Qualification Standards for archaeology has evaluated the situation. The Project Applicant shall include a standard inadvertent discovery clause...
in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resource is determined to be significant under CEQA Guidelines Section 15064.5, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the CEQA Guidelines. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, and provide for the permanent curation or repatriation of the recovered resources in cooperation with the designated most likely descendant as needed. The report shall be submitted to the City of Orange, the South Central Coastal Information Center, and the State Historic Preservation Office (SHPO), if required.

**Significance Determination After Mitigation:** Less Than Significant

**c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?**

The Project Site is located in an urbanized area of the City and is developed with a restaurant building and surface parking. Although the Project Site has been subject to grading and development in the past and no human remains are known to exist at the site, the Project would require grading and some trenching for installation of utilities, and it is possible that unknown human remains could be encountered at the site. In accordance with the State’s Health and Safety Code Section 7050.5, in the event of discovery or recognition of any human remains at the Project Site, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Orange County Coroner has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Through compliance with the regulatory standards described above, potential Project impacts to human remains would be less than significant.
Significance Determination: Less Than Significant Impact

Mitigation Measures: None

Cumulative Impacts

As shown on Table 36 in this MND, there are five cumulative projects within proximity to the Project Site. There are no shared cultural resources among the cumulative projects and the Project. Thus, no significant cumulative impacts related to cultural resources would occur.
6. **ENERGY. Would the project:**

<table>
<thead>
<tr>
<th>(a) Result in potential significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?</th>
<th>Less Than Significant Impact</th>
<th>Mitigation Incorporated</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

**Impact Analysis**

(a) **Would the project result in potential significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?**

(b) **Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

Checklist Questions 6(a) and 6(b) are addressed together, because the responses to both questions are closely related. In accordance with Appendix F of the CEQA Thresholds, the following are considered in determining the significance of the Project’s energy impacts:

1. The project’s energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;

2. The effects of the project on local and regional energy supplies and on requirements for additional capacity;

3. The effects of the project on peak and base period demands for electricity and other forms of energy;

4. The degree to which the project complies with existing energy standards;

5. The effects of the project on energy resources;

6. The project’s projected transportation energy use requirements and its overall use of efficient transportation alternatives;

7. The degree to which the project design and/or operations incorporate energy-conservation measures, particularly those that go beyond City requirements; and
8. Whether the Project conflicts with adopted energy conservation plans.

Electricity is provided to the Project Site by Southern California Edison (SCE). Natural gas is provided to the Project Site by The Southern California Gas Company (The Gas Company). Both forms of energy are provided to the Project Site via existing infrastructure located adjacent to the site. The Project would be served by this infrastructure and would not require the need for new, expanded, or relocated energy infrastructure. For the reasons discussed below, Project impacts related to energy would be less than significant.

Project Energy Requirements

Construction

During Project construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. As discussed below, construction activities, including the construction of the new building, typically do not involve the consumption of natural gas. Project construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the Project Site, construction worker travel to and from the Project Site, and delivery and haul truck trips (e.g., hauling of demolition material to off-site reuse and disposal facilities).

As shown on Table 10 and as discussed further below, Project construction would consume approximately a total of 846 kilowatt hours (kWh) of electricity, 7,028 gallons of gasoline, and 103,084 gallons of diesel. Project construction is expected to be completed by 2021.

Electricity

As shown on Table 10, a total of approximately 846 kWh of electricity is anticipated to be consumed during Project construction. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed, and would cease upon completion of construction. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption.

Natural Gas

Construction activities, including the construction of the new building, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support Project construction activities. Thus, there would be no demand generated by construction.

Transportation Energy

The petroleum-based fuel use summary provided on Table 10 represents the amount of transportation energy that could potentially be consumed during Project construction based on a conservative set of assumptions outlined in Appendix D. As shown, on- and off-road vehicles would consume an estimated
7,028 gallons of gasoline and approximately 103,084 gallons of diesel fuel throughout the Project’s construction.

<table>
<thead>
<tr>
<th>Table 10</th>
<th>Summary of Energy Use During Project Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel Type</strong></td>
<td><strong>Quantity</strong></td>
</tr>
<tr>
<td>Electricity</td>
<td>846 kWh</td>
</tr>
<tr>
<td>Water Consumption</td>
<td>N/A</td>
</tr>
<tr>
<td>Lighting, electronic equipment, and other construction activities necessitating electrical power</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Total Electricity</strong></td>
<td><strong>846 kWh</strong></td>
</tr>
<tr>
<td>Gasoline</td>
<td>7,028 gallons</td>
</tr>
<tr>
<td>On-Road Construction Equipment</td>
<td>7,028 gallons</td>
</tr>
<tr>
<td>Off-Road Construction Equipment</td>
<td>0 gallons</td>
</tr>
<tr>
<td><strong>Total Gasoline</strong></td>
<td><strong>7,028 gallons</strong></td>
</tr>
<tr>
<td>Diesel</td>
<td>103,084 gallons</td>
</tr>
<tr>
<td>On-Road Construction Equipment</td>
<td>79,287 gallons</td>
</tr>
<tr>
<td>Off-Road Construction Equipment</td>
<td>23,797 gallons</td>
</tr>
<tr>
<td><strong>Total Diesel</strong></td>
<td><strong>103,084 gallons</strong></td>
</tr>
<tr>
<td>Total Petroleum-Based Fuel</td>
<td>110,112 gallons</td>
</tr>
</tbody>
</table>

\[\text{kWh} = \text{kilowatt-hours}\]

*Note: Numbers have been rounded to the nearest whole number. Detailed calculations are included in Appendix D.*

**Operation**

During operation of the Project, energy would be consumed for multiple purposes, including, but not limited to HVAC; refrigeration; lighting; and the use of electronics, equipment, and machinery. Energy would also be consumed during Project operations related to water usage, solid waste disposal, and vehicle trips. As shown on Table 11 the Project would result in a net decrease in electricity consumption of approximately 93,382 kWh when compared to the existing restaurant use. As shown on 12, the Project would result in a net decrease in natural gas consumption of approximately 1,179,611 1,000 British thermal units (kBTU) per year when compared to the existing restaurant use. As shown on Table 13, the Project would result in a net decrease in fuel of approximately 60,779 gallons per year when compared to the existing restaurant use.
### Table 11
Estimated Project Electricity Demand

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Size</th>
<th>Total (kw-h/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>5,959 sf</td>
<td>217,384</td>
</tr>
<tr>
<td>Surface Parking Lot</td>
<td>34,000 sf</td>
<td>11,900</td>
</tr>
<tr>
<td><strong>Total Existing</strong></td>
<td></td>
<td>229,284</td>
</tr>
<tr>
<td><strong>Proposed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Care Facility</td>
<td>30,113 sf</td>
<td>127,210</td>
</tr>
<tr>
<td>Surface Parking Lot</td>
<td>15,000 sf</td>
<td>8,692</td>
</tr>
<tr>
<td><strong>Project Total</strong></td>
<td></td>
<td>135,902</td>
</tr>
<tr>
<td><strong>Less Existing</strong></td>
<td></td>
<td>-229,284</td>
</tr>
<tr>
<td><strong>Net Total</strong></td>
<td></td>
<td>-93,382</td>
</tr>
</tbody>
</table>

*kw-h = kilowatt-hour  yr = year  sf = square feet*

*Calculated via CalEEMod. Refer to Appendix A.*

### Table 12
Estimated Project Natural Gas Demand

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Size</th>
<th>Total (kBTU/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>5,959 sf</td>
<td>1,545,290</td>
</tr>
<tr>
<td>Surface Parking Lot</td>
<td>34,000 sf</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Existing</strong></td>
<td></td>
<td>1,545,290</td>
</tr>
<tr>
<td><strong>Proposed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Care Facility</td>
<td>30,113 sf</td>
<td>365,679</td>
</tr>
<tr>
<td>Surface Parking Lot</td>
<td>15,000 sf</td>
<td>0</td>
</tr>
<tr>
<td><strong>Project Total</strong></td>
<td></td>
<td>365,679</td>
</tr>
<tr>
<td><strong>Less Existing</strong></td>
<td></td>
<td>-1,545,290</td>
</tr>
<tr>
<td><strong>Net Total</strong></td>
<td></td>
<td>-1,179,611</td>
</tr>
</tbody>
</table>

*kBTU = 1,000 British Thermal Units  yr = year  sf = square feet*

*Calculated via CalEEMod. Refer to Appendix A.*
### Table 13
Estimated Project Transportation Petroleum-Based Fuel

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Gallons Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline</td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>66,9435</td>
</tr>
<tr>
<td>Less Existing</td>
<td>-26,085</td>
</tr>
<tr>
<td>Net Total Gasoline</td>
<td>-43,735</td>
</tr>
<tr>
<td>Diesel</td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>9,041</td>
</tr>
<tr>
<td>Less Existing</td>
<td>-26,085</td>
</tr>
<tr>
<td>Net Total Diesel</td>
<td>-17,044</td>
</tr>
<tr>
<td>Total Fuel</td>
<td>-60,779</td>
</tr>
</tbody>
</table>

*Detailed calculations are included in Appendix D.*

**Effects on Local and Regional Energy Supplies**

As shown on Tables 11 through 13, the Project would result in a net decrease in electricity, natural gas, and transportation fuel consumption when compared to the existing restaurant use on the Project Site. As such, the Project would reduce the effect on local and regional energy supplies.

**Effects on Peak and Base Period Demands**

As shown on Tables 11 through 13, the Project would result in a net decrease in electricity, natural gas, and transportation fuel consumption when compared to the existing restaurant use on the Project Site. As such, the Project would reduce the effect on peak and base period demands.

**Compliance with Existing Energy Standards**

The Project would be required by the City to comply with applicable Title 24 energy conservation standards.

**Effects on Energy Resources**

As shown on Tables 11 through 13 the Project would result in a net decrease in electricity, natural gas, and transportation fuel consumption when compared to the existing restaurant use on the Project Site. As such, the Project would reduce the effect on energy resources.

**Effects on Energy Resources**

As shown on Tables 11 through 13, the Project would result in a net decrease in electricity, natural gas, and transportation fuel consumption when compared to the existing restaurant use on the Project Site. As such, the Project would reduce the effect on energy resources.
Transportation Fuel and Efficiency

As shown on Table 13, the Project would result in a net decrease in transportation fuel consumption when compared to the existing restaurant use on the Project Site. As such, the Project would reduce the effect on energy resources.

Compliance with Energy Conservation

In 2017, the City adopted the 2016 California Building Standards Code, which includes the California Green Building Standards Code. The City would require the Project to comply with all applicable Green Building Standards, including those related to energy conservation.

Significance Determination: Less Than Significant

Mitigation Measures: None

Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. It is possible that the cumulative projects could result in an increase in the demand for energy sources. However, as discussed above, the Project would result in a net decrease in energy consumption when compared to the existing restaurant use. Thus, the Project would not have the potential to contribute to any cumulative energy impacts. Therefore, cumulative energy impacts would be less than significant.
7. GEOLOGY AND SOILS. Would the project:

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>ii.) Strong seismic ground shaking?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>iv.) Landslides?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>(b) Result in substantial soil erosion or the loss of topsoil?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>(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?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td></td>
<td></td>
<td>☑</td>
</tr>
</tbody>
</table>

Impact Analysis

The section is based in part on the following (refer to Appendix E):

- Paleontological Resources, Natural History Museum Los Angeles County, June 14, 2019.

(a) i) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the
most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Based on the Geotechnical Exploration Report prepared for the Project, no active faults are mapped or are known to cross the Project Site, and the site is not located within an Alquist-Priolo Earthquake Fault Zone. Thus, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(a) ii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The principal seismic hazard at the Project Site is ground shaking resulting from an earthquake occurring along any of several major active and potentially active faults in southern California. Known regional active faults that could produce significant ground shaking at the site include the San Joaquin Hills Blind Thrust and Whittier faults located approximately 6.1 miles and 9.6 miles, respectively, from the site. The intensity of ground shaking at a given location depends primarily on the earthquake magnitude, the distance from the source, and the site response characteristics. Peak horizontal ground accelerations are generally used to evaluate the intensity of ground motion. Using the United States Geological Survey (USGS) Seismic Design Maps), the peak ground acceleration for the Maximum Considered Earthquake (MCEG) adjusted for the Site Class effects (PGAM) at the Project Site is 0.53g. Based on the USGS online unified hazard tool program, the modal seismic event is Moment Magnitude (MW) 6.9 at a distance of 6.5 miles.

However, in accordance with Mitigation Measure GEO-1, the Project Applicant would be required by the City’s Building Division as part of the Project’s Plan Check process to comply with any recommendations made in a final Geotechnical Exploration Report that addresses the final design of the Project. In addition, the Project would be required to adhere to the latest adoption edition of the California Building Standards Code, which includes seismic design standards. Compliance with these requirements would ensure that the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts related to seismic ground shaking would be less than significant.

Significance Determination: Less Than Significant With Mitigation Incorporated

Mitigation Measures:

GEO-1: Prior to the issuance of a grading or building permit (whichever is issued first), the Project Applicant shall demonstrate to the City’s Community Development Department staff that
all applicable recommendations of the Project’s final Geotechnical Exploration Report have been incorporated into the Project design and grading plans.

(a) iii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Based on the Geotechnical Exploration Report prepared for the Project, the potential for liquefaction to occur at the Project Site is considered low. It has been estimated that the Project would experience earthquake-induced settlement of approximately less than 0.5 inches. However, in accordance with Mitigation Measure GEO-1, the Project Applicant would be required by the City’s Building Division as part of the Project’s Plan Check process to comply with any recommendations made in a final Geotechnical Exploration Report that addresses the final design of the Project. In addition, the Project would be required to adhere to the latest adoption edition of the California Building Standards Code, which includes seismic design standards. Compliance with these requirements would ensure that the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts related to seismic-related ground failure would be less than significant.

Significance Determination: Less Than Significant With Mitigation Incorporated

Mitigation Measures:

GEO-1: Prior to the issuance of a grading or building permit (whichever is issued first), the Project Applicant shall demonstrate to the City’s Community Development Department staff that all applicable recommendations of the Project’s final Geotechnical Exploration Report have been incorporated into the Project design and grading plans.

(a) iv) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The Project Site topography and surrounding area are generally flat and not subject to landslides. Thus, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

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

The Project Site is completely developed with a restaurant building and surface parking and does not contain topsoil that is used for its nutrients.
Construction, grading, and excavation activities would expose areas of the Project Site to the erosional effects of wind or water for a protracted period of time. Development of the proposed project would include construction activities that would expose soils and could potentially result in substantial erosion. Excavation would be limited to that necessary for the installation of building foundations and utilities. All grading activities require adherence to the City’s grading ordinance, which include requirements and standards designed to limit potential impacts to acceptable levels. During construction, the Project would be required by to prevent the transport of sediments from the Project Site through stormwater runoff and winds through the use of appropriate Best Management Practices (BMPs).

Furthermore, the State Water Resources Control Board (SWRCB) adopted a National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). To obtain coverage under the Construction General Permit, a Project Applicant must submit various documents, including a Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP). Activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation. The purpose of the SWPPP is to identify sources of sediment and other pollutants that could affect the quality of stormwater discharges and to describe and ensure the implementations of Best Management Practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. Potential BMPs for construction activities that could be used during the Project’s construction phase include but are not limited to silt fencing, fiber rolls, hydraulic mulch, velocity dissipation device, and construction waste management. With the implementation of the NPDES regulations, Project impacts related to soil erosion would be less than significant.

**Significance Determination:** Less Than Significant

**Mitigation Measure:** None

(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The potential for liquefaction at the Project Site is considered low and the Project Site is not subject to landslides. Additionally, it has been estimated that the Project would experience earthquake-induced settlement of approximately less than 0.5 inches. However, in accordance with Mitigation Measure GEO-1, the Project Applicant would be required by the City’s Building Division as part of the Project’s Plan Check process to comply with any recommendations made in a final Geotechnical Exploration Report that addresses the final design of the Project and with current California Building Code and City building. Compliance with these requirements would ensure that the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts related to geologic or soil instability would be less than significant.

**Significance Determination:** Less Than Significant With Mitigation Incorporated

**Mitigation Measure:**
GEO-1: Prior to the issuance of a grading or building permit (whichever is issued first), the Project Applicant shall demonstrate to the City’s Community Development Department staff that all applicable recommendations of the Project’s final Geotechnical Exploration Report have been incorporated into the Project design and grading plans.

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

Based on the Geotechnical Investigation Report prepared for the Project, soils at the Project Site have a low potential for expansion. Thus, the Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(e) Would the project 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?

The Project would not use a septic system for wastewater disposal. The Project would connect to the City’s existing sewer system for wastewater disposal. Thus, the Project would not require the installation of alternate wastewater disposal systems or septic tanks. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

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

Paleontological resources include fossil remains, fossil localities, and formations that have produced fossil material in other nearby areas. Paleontological resources are limited, nonrenewable, sensitive scientific and educational resources, including fossils preserved either as impressions of soft (fleshy) or hard (skeletal) parts, mineralized remains of skeletons, tracks, or burrows; other trace fossils; coprolites (fossilized excrement); seeds or pollen; and other microfossils from terrestrial, aquatic, or aerial organisms.
The City’s General Plan has designated most of the planning area generally east of SR-55 as an area of paleontological resource sensitivity.

The Project Site is currently developed with a restaurant building and surface parking. According to a records search conducted by the Los Angeles County Museum of Natural History conducted in June 2019, there are no known paleontological resources present within the Project Site boundaries, although there are resources within the general Project Site area. Although the Project would require relatively shallow excavation work for the building foundation, it is possible that unknown paleontological resources could be encountered. Thus, the Project Applicant would be required to implement Mitigation Measure GEO-2, which would ensure that Project impacts related to paleontological resources would be less than significant.

Significance Determination: Less Than Significant with Mitigation Incorporated

Mitigation Measure:

GEO-2: In the event a previously unrecorded paleontological deposit is encountered during construction; all activity shall cease in the vicinity of the find and redirected elsewhere, and the City shall be immediately informed of the discovery. A paleontologist shall be retained by the developer to:

- Make recommendations on the treatment of the deposits. The recommendations shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15126.4. The City shall be consulted on the treatment of the deposits. The applicant shall follow all recommendations made by the paleontologist. The deposits shall not be disturbed or removed until the appropriate treatment has be recommended by the paleontologist and approved by the City. No construction activity in the vicinity of the find, the boundary of which shall be determined by the paleontologist, may resume until the recommendations for treatment of the deposits have been implemented.

If applicable, the final report containing site forms, site significance, and mitigation measures shall be submitted to the Community Development Department when finalized. The final written report shall be submitted to the appropriate regional paleontological Information Center within three months after work has been completed.

Significance Determination After Mitigation: Less Than Significant
Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. Geology and soils impacts are site-specific. The City considers the geotechnical, geologic, and paleontological resources impacts on a project-by-project basis. As discussed above, the Project would not result in any significant impacts related to geotechnical/geologic issues, and with mitigation, Project impacts related to paleontological resources would be less than significant. Therefore, cumulative impacts related to geology and soils would be less than significant.
8. GREENHOUSE GAS EMISSIONS.

Would the project:

<table>
<thead>
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<th></th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact</th>
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<tr>
<td>(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td>☑</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gases?</td>
<td>☑</td>
<td></td>
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</tbody>
</table>

Impact Analysis

(a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

(b) Would the project conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gases?

The analysis in this section is based primarily on the following (refer to Appendix A):


Environmental Setting

Climate Change Background

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in average temperature of Earth’s surface and atmosphere. One identified cause of global warming is an increase of greenhouse gas (GHG) emissions in the atmosphere. GHG emissions are those compounds in Earth’s atmosphere that play a critical role in determining Earth’s surface temperature.

Earth’s natural warming process is known as the “greenhouse effect.” It is called the greenhouse effect because Earth and the atmosphere surrounding it are similar to a greenhouse with glass panes in that the glass allows solar radiation (sunlight) into Earth’s atmosphere but prevents radiative heat from escaping, thus warming Earth’s atmosphere. Some levels of GHG emissions keep the average surface temperature of Earth close to a hospitable 60 degrees Fahrenheit. However, it is believed that excessive concentrations of anthropogenic GHG emissions in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences.
**GHG Emissions Background**

GHG emissions include CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). Carbon dioxide is the most abundant GHG. Other GHG emissions are less abundant but have greater global warming potential than CO₂. Thus, emissions of other GHG emissions are frequently expressed in their equivalent mass of CO₂, denoted as CO₂e. Forest fires, decomposition, industrial processes, landfills, and the consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

**Regulatory Framework**

There are any number of agreements, strategies, policies, regulations, and standards that relate to GHG emissions – from international climate accords to local climate action plans. The following plans, policies, and regulations are fundamental to the Project’s determination of significance with respect to its GHG emissions and consistency with these documents.

**State**

*AB 32 (California Global Warming Solutions Act of 2006) and SB 32*

In September 2005, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, AB 32, into law. AB 32 committed the State to achieving the following:

- By 2010, reduce statewide GHG emissions to 2000 levels.\(^{17}\)
- By 2020, reduce statewide GHG emissions to 1990 levels.

AB 32 further requires CARB to adopt rules and regulations that achieve the maximum technologically feasible and cost-effective GHG emissions reductions.

Signed in September 2016 by Governor Jerry Brown, SB 32 updates AB 32 to include an emissions reductions goal for the year 2030. Specifically, SB 32 requires the California Air Resources Board (CARB) to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030.

**Climate Change Scoping Plan**

In 2008 CARB approved a Climate Change Scoping Plan (2008 Scoping Plan) detailing the approach that California would take to reduce its GHG emissions to 1990 levels by 2020, as required by AB 32. To achieve this, CARB determined that an approximate 28.5 percent reduction in GHG emissions would be

\(^{17}\) As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.

\(^{18}\) The 2010 target to reduce GHG emissions to 2000 levels was not met.
necessary. That is, projected 2020 GHG emissions (i.e. emissions that would occur in 2020, absent any GHG-reducing laws and regulations) would have to be reduced by 28.5 percent.

CARB prepared a revised and expanded document, the Supplemental Functional Equivalent Document to the Climate Change Scoping Plan (Supplemental FED), approved in August 2011. As part of the Supplemental FED, CARB updated the projected 2020 emissions inventory based on then-current economic forecasts (i.e. as influenced by the economic downturn) and GHG emissions reduction measures already in place. Ultimately, CARB determined that achieving the 1990 emissions levels by 2020 would require a reduction in GHG emissions of 16 percent from BAU conditions, down from the previous 28.5 percent figure.

CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) in 2014. The First Update found that California is on track to meet AB 32’s 2020 emissions reduction mandate and determined that, by 2030, the State could reduce its GHG emissions to levels on course with those needed to achieve the 2050 target if it realizes the expected benefits of its existing policy goals. CARB further identified and developed recommended actions for six focus areas key to achieving the 2050 target: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands.

In December 2017, CARB adopted the 2017 Climate Change Scoping Plan Update: The Strategy for Achieving California’s 2030 Greenhouse Gas Target (2017 Update). The 2017 Update builds upon the successful framework established by the 2008 Scoping Plan and the First Update and identifies new, technologically feasible, and cost-effective strategies to ensure that the state meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health. It includes policies to require direct GHG reductions at some of the state’s largest stationary sources and mobile sources, such as use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade program, which constraints and reduces emissions at covered sources.

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19 E.g. the million-solar-roofs program, AB 1493 (Pavley I) motor vehicle GHG emissions standards, and the Low Carbon Fuel Standard (LCFS). Pavley I, the first GHG standard in the nation for passenger vehicles, took effect for model years starting in 2009 to 2016. Pavley I could potentially result in a 27.7 million metric tons CO\textsubscript{2}e reduction of GHG emissions by 2020. Pavley II covers models years 2017 to 2025 and could result in additional reductions of 4.1 million metric tons CO\textsubscript{2}e.

20 The 2050 goal of reducing GHG emissions to 80 percent below 1990 levels was originally established by Executive Order S-3-05, issued by Governor Schwarzenegger in June 2005. However, the 2050 goal was not codified by either AB 32 or SB 32.
Passed in August 2007, SB 97 required the State Office of Planning and Research (OPR) to prepare and develop CEQA guidelines for the effects and/or mitigation of GHG emissions, including effects associated with transportation and energy consumption. Subsequently, the Draft Guidelines Amendments for Greenhouse Gas Emissions (Guidelines Amendments) were adopted in December 2009 to address the specific obligations of public agencies when analyzing GHG emissions to determine a project’s effect on the environment, as pursuant to CEQA.

However, the Guidelines Amendments provide no thresholds of significance or any specific mitigation measures; rather, they require a lead agency to make a good-faith effort to describe, calculate, or estimate the amount of GHG emissions that would result from a Project, to the extent possible based on scientific and factual data. The Guidelines Amendments give discretion to the lead agency whether to (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Additionally, three factors that should be considered in the evaluation of the significance of GHG emissions are identified:

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

The administrative record for the Guidelines Amendments also clarifies “that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of CEQA’s requirements for the cumulative impact analysis.”

The California Natural Resources Agency is required to periodically update the Guidelines Amendments to incorporate new information or criteria established by CARB pursuant to AB 32. SB 97 applies to any environmental impact report (EIR), negative declaration, mitigated negative declaration, or other document requirement by CEQA.

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"Letter from Cynthia Bryant, Director of the Governor’s Office of Planning and Research, to Mike Chrisman, California Secretary for Natural Resources, dated 13 April 2009."
SB 375 requires each Metropolitan Planning Organization (MPO) to adopt a Sustainable Community Strategy (SCS) encouraging compact development that reduces passenger Vehicle Miles Traveled (VMT) and trips, all for the purpose of meeting CARB-determined regional GHG emissions reduction targets.

To implement SB 375 and reduce GHG emissions via strategic land use and transportation planning, the Southern California Association of Governments (SCAG) adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) in April 2016. In short, the 2016-2040 RTP/SCS offers a blueprint for how Southern California can grow more sustainably, in particular by recognizing the relationship between transportation investments and land use patterns and how this relationship can sustain existing resources while expanding efficiency, mobility, and accessibility for people across the region. The 2016-2040 RTP/SCS also includes strategies focused on compact infill development and supporting infrastructure that promotes the easier public access to jobs, services, educational facilities, healthcare, and more.

To this end, the 2016-2040 RTP/SCS reinforces the trend of focusing new housing and employment in the region’s High Quality Transit Area (HQTAs). Though these areas currently account for just 3 percent of total land in the SCAG region, they are projected to accommodate 46 percent of the region’s future household growth and 55 percent of the region’s future employment growth by 2040. HQTAs are a cornerstone of land use planning best practices in the SCAG region because they concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability. As a result, HQTAs are vital to the attainment of regional GHG emissions reduction targets: successful implementation of the 2016-2040 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, reducing automobile use and, crucially, associated GHG emissions.

The 2016-2040 RTP/SCS is estimated to reduce per capita passenger vehicle GHG emissions by 8 percent by 2020 and 18 percent by 2035 – compared with 2005 levels. This would meet the region’s 2020 GHG reduction target of 8 percent per capita, and it exceeds the previous 13 percent target for 2035, which applied through September 30, 2018. However, in March 2018, CARB adopted updated targets requiring a 19 percent decrease in per capita passenger vehicle GHG emissions for the SCAG regional by 2035, effective as of October 1, 2018. The region’s 2020 target was unchanged. As the updated CARB targets were adopted after the promulgation of the 2016-2040 RTP/SCS, it is expected that the updated 2035 target will be incorporated into the next RTP/SCS. Overall, the 2016-2040 RTP/SCS and/or the next RTP/SCS are

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The 2016-2040 RTP/SCS defines HQTAs as areas within one-half mile of a fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes or less during peak commuting hours.
expected to fulfill and exceed the region’s portion of SB 375 compliance with respect to meeting the state’s GHG emissions reduction goals.

Local

City of Orange General Plan Natural Resources Element

Released in 2010 and last revised in December 2015, the City’s General Plan Natural Resources Element outlines the City’s climate change-related goals and policies and identifies additional climate change-related policies from other portions of the General Plan. Though Policy 3.2 calls on the City to “develop and adopt a comprehensive strategy to reduce greenhouse gases (GHGs) within Orange by at least 15 percent from currently levels by 2020,” it is unclear whether the City has adopted such a strategy or climate action plan.

Existing Conditions

Existing Statewide GHG Emissions

As reported by the California Energy Commission (CEC), California contributes approximately one percent of global and 8.2 percent of national GHG emissions. California contains approximately 12 percent of the national population. Approximately 80 percent of GHGs in California are CO₂ emitted from fossil fuel combustion. The current California GHG inventory compiles statewide anthropogenic GHG emissions and carbon sinks/storage from years 2000 through 2016. It includes estimates for CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. The 2010-2016 GHG inventory for California is presented on Table 14. As show, the GHG inventory for California in 2016 was 429.4 million MTCO₂e.

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“A carbon inventory identifies and quantifies sources and sinks of greenhouse gases. Sinks are defined as a natural or artificial reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period.
<table>
<thead>
<tr>
<th>Table 14</th>
<th>California GHG Inventory (million metric tons CO₂e)</th>
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<tbody>
<tr>
<td>Transportation</td>
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<td>On Road</td>
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</table>

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### Table 14
California GHG Inventory (million metric tons CO\textsubscript{2}e)

<table>
<thead>
<tr>
<th></th>
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<td>Commercial Cogeneration Heat</td>
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<td>0.58</td>
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<td>Crop Growing &amp; Harvesting</td>
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<td>General Fuel Use</td>
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<tr>
<td>High GWP</td>
<td>13.52</td>
<td>14.54</td>
<td>15.54</td>
<td>16.65</td>
<td>17.70</td>
<td>18.93</td>
<td>19.78</td>
</tr>
<tr>
<td>Electricity Grid SF6 Losses [4]</td>
<td>0.24</td>
<td>0.25</td>
<td>0.24</td>
<td>0.18</td>
<td>0.14</td>
<td>0.42</td>
<td>0.37</td>
</tr>
<tr>
<td>Semiconductor Manufacturing</td>
<td>0.08</td>
<td>0.08</td>
<td>0.06</td>
<td>0.08</td>
<td>0.14</td>
<td>0.14</td>
<td>0.16</td>
</tr>
<tr>
<td>Recycling and Waste</td>
<td>8.11</td>
<td>8.19</td>
<td>8.20</td>
<td>8.22</td>
<td>8.28</td>
<td>8.40</td>
<td>8.47</td>
</tr>
<tr>
<td>Landfills [3]</td>
<td>0.26</td>
<td>0.27</td>
<td>0.29</td>
<td>0.30</td>
<td>0.31</td>
<td>0.33</td>
<td>0.34</td>
</tr>
<tr>
<td>Included Inventory Emissions</td>
<td>448.11</td>
<td>443.91</td>
<td>450.38</td>
<td>447.59</td>
<td>444.10</td>
<td>441.40</td>
<td>429.35</td>
</tr>
</tbody>
</table>

- Reflects emissions from combustion of fuels plus fugitive emissions.
- These categories are listed in the Industrial sector of CARB’s GHG Emission Inventory sectors.
- This category is listed in the Electric Power sector of CARB’s GHG Emission Inventory sectors.
- Reflects use of updated USEPA models for determining emissions from livestock and fertilizers.

**Source:** CARB, 2018 of the GHG Emission Inventory, July 2018.

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**Existing Project Site Emissions**

The Project Site currently contains a 5,959 square-foot former restaurant building and its related surface parking. As the restaurant is no longer operational (as of December 31, 2018), the site contains no active uses and likely generates nominal, if any, anthropogenic GHG emissions. Nevertheless, emissions associated with the former use were estimated for comparison purposes, and it was determined that the restaurant would have generated about 866 MT of CO\textsubscript{2}e annually. The Project would remove this former restaurant building and all other site improvements.
Project Impacts

Methodology

Because there is no “bright line” threshold of significance for GHG emissions, the methodology for evaluating a project’s impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation is the sole basis for determining the significance of a project’s GHG-related impacts on the environment. For this Project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the 2016-2040 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the State’s long-term climate goals. This analysis also evaluates the Project’s consistency with regulations or requirements set forth by the 2008 Scoping Plan and subsequent updates, as well as climate change-related goals and policies set forth by the City of Orange General Plan.

For informational purposes, the consistency analysis also discloses the amount of GHG emissions emitted through the use of recommended air quality models. This disclosure ensures that the estimate of the Project’s GHG emissions satisfies State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. However, the significance of a project’s GHG emissions impacts is not based on the amount of GHG emissions resulting from the project.

Construction

The Project’s construction emissions were calculated using CalEEMod Version 2016.3.2. Details of the modeling assumptions and emissions factors are provided in Appendix A. GHG emissions from construction activities were modeled using a reasonable estimate of the Project’s construction schedule and phasing. CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips.

In accordance with SCAQMD guidance, GHG emissions from construction were amortized over the lifetime of the Project. Because emissions from construction activities occur over a relatively short-term period of time, they contribute a relatively small portion of the overall lifetime GHG emissions for a project. Additionally, GHG emissions reduction measures for construction equipment are relatively limited. Thus, SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime, so that GHG emissions reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. As a result, the Project’s total construction GHG emissions were divided by 30 to determine an approximate annual construction emissions estimate comparable to operational emissions.

Operations

Similar to construction, the SCAQMD-recommended CalEEMod is used to calculate potential GHG emissions generated by new land uses on the Project Site. The Project would result in direct and indirect GHG emissions generated by related vehicle trips and operations associated with the proposed building, including: (1) building operations: emissions associated with space heating and cooling, water heating, and lighting; (2) water: emissions associated with energy used to pump, convey, treat, delivery, and re-treat water; and (3) solid water: emissions associated with waste streams (embodied energy of materials).

Climate Change Scoping Plan

Tables 15 provides an evaluation of the Project’s consistency with applicable reduction actions/strategies outlined in the 2008 Scoping Plan and the First Update to that plan. The 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 GHG emissions reductions target. Table 16 provides an evaluation of the Project’s consistency with this update. Based on the analysis on these tables, the Project would be consistent with the State’s Climate Change Scoping Plan.

2016-2040 RTP/SCS

The 2016-2040 RTP/SCS is expected to help the SCAG region, and in turn California, reach its GHG reduction goals. Implementation of the 2016-2040 RTP/SCS is projected to reduce per capita transportation emissions by 9 percent by 2020 and by 16 percent by 2035. Though CARB has not set per capita GHG emissions reduction targets for passenger vehicles for 2040, the 2016-2040 RTP/SCS GHG emissions reduction trajectory shows that more aggressive GHG emissions reductions are projected for 2040. The 2016-2040 RTP/SCS would result in an estimated 8 percent decrease in per capita passenger vehicles GHG emissions by 2020, an 18 percent decrease by 2035, and a 21 percent decrease by 2040. By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 21 percent decrease in per capita vehicle GHG emissions by 2040, the 2016-2040 RTP/SCS is expected to fulfill and exceed its portion of SB 375 compliance.

At the Project’s regional level, the 2016-2040 RTP/SCS is an applicable plan adopted for the purpose of reducing GHG emissions. In order to assess the Project’s potential to conflict with or otherwise obstruct the goals of the 2016-2040 RTP/SCS, this section analyzes the Project’s land use assumptions for those utilized by SCAG in the 2016-2040 RTP/SCS. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. Table 17 includes a discussion of the Project’s consistency with the Actions and Strategies set forth by the 2016-2040 RTP/SCS. Based on the analysis on Table 17 the Project would be consistent with the 2016-2040 RTP/SCS.

\[\text{CARB, Regional Greenhouse Gas Emission Reduction Targets Pursuant to SB 375, Resolution 10-31.}\]
## Table 15
### Consistency Analysis – Climate Change Scoping Plan and First Update

<table>
<thead>
<tr>
<th>Actions and Strategies</th>
<th>Responsible Party(ies)</th>
<th>Project Consistency Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area Sources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCAQMD Rule 445 (Wood Burning Devices): Requires use of natural gas to power all cooking stoves and fireplaces.</td>
<td>SCAQMD</td>
<td>Consistent. Any cooking stoves would either be electric or natural gas, not wood-burning.</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td></td>
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</table>
| California Renewables Portfolio Standard (RPS) Program: SB 2X modified California’s RPS program to require that both public and investor-owned utilities in California receive at least 33 percent of their electricity from renewable sources by the year 2020. California SB 2X also requires regulated sellers of electricity to meet an interim milestone of procuring 25 percent of their energy supply from certified renewable resources by 2016. | Southern California Edison | Consistent. The Project would use electricity provided by Southern California Edison (SCE), which is required to meet SB 350 and subsequent SB 100 performance standards that exceed the RPS program standard. SB 100 revises the State’s renewable resources targets to 44 percent by 2024, 52 percent by 2027, 60 percent by 2030, and 100 percent by 2045. According to SCE’s 2018 Draft Renewable Portfolio Standard Procurement Plan, the company received 31.6 percent of its electricity from RPS-eligible resources in 2017 and is positioned to achieve the 2020 target of 33 percent.  
Senate Bill 350 (SB 350): The Clean Energy and Pollution Reduction Act of 2015 increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by 2030 and also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.: | State Energy Resources Conservation and Development Commission, and SCE | Consistent. SCE would be required to generate electricity that would increase renewable energy resources to 50 percent by 2030. As SCE would provide electricity service to the Project Site, by 2030, the Project would use electricity consistent with the requirements of SB 350. |
| Senate Bill 1368 (SB 1368): The GHG Emissions Standard for Baseload Generation prohibits any retail seller of electricity in California from entering into a long-term financial commitment for baseload generation if the GHG emissions are higher than those from a combined-cycle natural gas power plant. | State, CEC, and SCE | Consistent. SCE is obligated to meet the requirements of SB 1368. As SCE provides electricity service to the Project Site, the Project would use electricity that meets the requirements under SB 1368. |
| California Code of Regulations (CCR), Title 20: The 2012 Appliance Efficiency Regulations, adopted by the | State and CEC. | Consistent. The Appliance Efficiency Regulations apply to new appliances and lighting that are sold or offered for sale |
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Consistency Analysis – Climate Change Scoping Plan and First Update

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<tr>
<td>CEC, include standards for new appliances (e.g. refrigerators) and lighting if they are sold or offered for sale in California.</td>
<td>State and CEC</td>
<td>Consistent. Consistent with regulatory requirements, the Project must comply with applicable provisions of the OMC that in turn require compliance with Title 24 and the California Green Building Standards. The current 2016 Title 24 standards are 28 percent more efficient (for electricity) than residential construction built to the 2013 Title 24 standards and 5 percent more efficient for non-residential construction built to the 2013 Title 24 standards. However, on July 1, 2019, the 2019 California Building Standards Code was published, with an effective date of January 1, 2020. Though these updated standards have yet to go into effect and have not yet been adopted by the OMC, they would apply to the Project’s construction, which would comment subsequent to the effective date. Residences built to the new 2019 standards will be approximately 7 percent more efficient than those built to the 2016 standards. Nonresidential buildings will be approximately 30 percent more energy efficient.</td>
</tr>
<tr>
<td>CCR, Title 24, Building Standards Code: The 2013 Building Energy Efficiency Standards contained in Title 24, Part 6 (also known as the California Energy Code), requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy-efficient technologies and methods. The California Green Building Standards Code (Part 11, Title 24) established mandatory and voluntary standards on planning and design for sustainable site development, energy efficiency (extensive update of the California Energy Code), water conservation, material conservation, and internal air contaminants.</td>
<td>Federal/Manufacturers</td>
<td>Consistent. EISA would serve to reduce and/or eliminate the use of incandescent light bulbs for the Project and, thus, reduce energy usage associated with lighting.</td>
</tr>
<tr>
<td>Energy Independence and Security Act of 2007 (EISA): EISA requires manufacturing for sale within the United States to phase out incandescent light bulbs between 2012 and 2014, resulting in approximately 25 percent greater efficiency for light bulbs. It would result in approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020.</td>
<td>State/Manufacturers</td>
<td>Consistent. As with EISA, discussed above, the Project would meet the requirements under AB 1109 because it incorporates energy efficient lighting and electricity</td>
</tr>
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### Table 15
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<tr>
<td>minimum energy efficiency standards for all general purpose lights. The standards are</td>
<td></td>
<td>consumption that complies with local and state green building programs.</td>
</tr>
<tr>
<td>structured to reduce average statewide electrical energy consumption by not less than</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 percent from the 2007 levels for indoor residential lighting and not less than 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>percent from the 2007 levels for indoor commercial and outdoor lighting by 2018.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cap-and-Trade Program:</strong> This program establishes an overall limit on GHG emissions</td>
<td>State/Manufacturers</td>
<td><strong>Consistent.</strong> As required by AB 32 and the Climate Change Scoping Plan, the Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects’ electricity usage are covered by the Cap-and-Trade Program. Therefore, GHG emissions associated with the Project’s electricity usage per year would be covered by the Cap-and-Trade Program (as SCE would be a covered entity) and would be consistent with AB 32 and the Climate Change Scoping Plan.</td>
</tr>
<tr>
<td>from capped sectors (e.g. electricity generation, petroleum refining, and cement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>production). Facilities subject to the cap are able to trade permits to emit GHG</td>
<td></td>
<td></td>
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<tr>
<td>emissions within the overall limit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobile</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AB 1493 “Pavley Standards”:</strong> AB 1493 requires the development and adoption of</td>
<td>State, CARB</td>
<td><strong>Consistent.</strong> The Pavley regulations reduced GHG emissions from California passenger vehicles by about 22 percent in 2012 and reduced GHG emissions by about 30 percent in 2016, all while improving fuel efficiency. However, this regulatory program applies to vehicle manufacturers and not directly to land use development. Nonetheless, vehicular travel associated with the Project would benefit from the regulation in the form of reduced GHG emissions due to the increasing penetration of new vehicles in the state-wide fleet that are affected by AB 1493. Mobile source emissions generated by Project users would be reduced with the implementation of AB 1493, consistent with the reduction of GHG emissions under AB 32. The Project’s mobile source GHG emissions were calculated using CalEEMod,</td>
</tr>
<tr>
<td>regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>by non-commercial passenger vehicles, light-duty trucks, and other vehicles used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>primarily for personal transportation in the State. In compliance with AB 1493, CARB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>adopted regulations to reduce GHG emissions from non-commercial passenger vehicles and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>light duty trucks of model year 2009 through 2016. Model years 2017 through 2025 are</td>
<td></td>
<td></td>
</tr>
<tr>
<td>addressed by California’s Advanced Clean Cars program (discussed below).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table 15

### Consistency Analysis – Climate Change Scoping Plan and First Update

<table>
<thead>
<tr>
<th>Actions and Strategies</th>
<th>Responsible Party(ies)</th>
<th>Project Consistency Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Executive Order S-01-07:</strong> The Low Carbon Fuel Standard requires a 10-percent or greater reduction by 2020 in the average fuel carbon intensity for transportation fuels in California regulated by CARB. CARB identified the LCFS as a Discrete Early Action item under AB 32, and the final resolution (09-31) was issued on April 23, 2009.&quot;</td>
<td>State, CARB</td>
<td><strong>Consistent.</strong> This regulatory program applies to fuel suppliers and not directly to land use development. Nonetheless, GHG emissions related to the Project’s associated vehicles travel would benefit from this regulation because fuel consumed by Project-related vehicles would be required to comply with the LCFS.</td>
</tr>
<tr>
<td><strong>Advanced Clean Cars Program:</strong> In 2012 CARB approved the Advanced Clean Cars Program, a new emissions-control program for model year 2017 through 2025. The program combines the control of smog, soot, and GHG emissions with requirements for greater numbers of zero-emissions vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions.</td>
<td>State, CARB</td>
<td><strong>Consistent.</strong> Similar to AV 1493, this regulatory program applies to manufactures and not directly to land use development. Nonetheless, GHG emissions generated by Project-related vehicle travel would benefit from this regulation as new vehicles increasingly penetrate the state-wide fleet, and mobile source GHG emissions generated by the Project would subsequently be reduced, consistent with AB 32 requirements. However, as CalEEMod does not yet account for this regulation, estimates of the Project’s mobile source GHG emissions do not reflect the implementation of this regulatory program.</td>
</tr>
<tr>
<td><strong>SB 375:</strong> SB 375 requires the integration of planning processes for transportation, land-use, and housing. Under SB 375, each MPO would be required to adopt a Sustainable Community Strategy (SCS) to encourage compact development that reduces passenger vehicle miles traveled and trips so that the regional will meet a target, established by CARB, for reducing GHG emissions.</td>
<td>State, CARB, Regional, SCAG</td>
<td><strong>Consistent.</strong> SB 375 requires SCAG to direct the development of the SCS for the regional, which is discussed further below. The Project consists of an infill development that would be located near an emerging HQTA. As the Project would be consistent with SCAG’s 2016-2040 RTP/SCS, it would not conflict with the region’s obligations under SB 375 to meet the State’s GHG emissions reduction goals.</td>
</tr>
<tr>
<td><strong>Solid Waste</strong></td>
<td>State</td>
<td><strong>Consistent.</strong> GHG emissions related to solid waste generation from the Project would benefit from this regulation as it would decrease the overall amount of solid waste disposed of at landfills. The decrease in solid waste</td>
</tr>
<tr>
<td><strong>California Integrated Waste Management Act of 1989 and AB 341:</strong> The California Integrated Waste Management Act of 1989 requires each jurisdiction’s source reduction and recycling element to include an implementation</td>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Actions and Strategies</td>
<td>Responsible Party(ies)</td>
<td>Project Consistency Analysis</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td>schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; and (2) diversion of 50 percent of all solid waste on and after January 1, 2000, through source reduction, recycling, and composting facilities.&quot;</td>
<td></td>
<td>would then in return decrease the amount of methane released from the decomposing solid waste. Project-related GHG emissions from solid waste generation include a 50-percent reduction in solid waste generation source emissions. The Project Applicant would only contract for waste disposal services with a company that recycles solid waste in compliance with AB 341. Additionally, the Project Applicant would be required to comply with AB 1826 (Mandatory Commercial Organics Recycling) to recycle landscape cuttings and food waste. Further, the Project would provide recycling bins at appropriate locations to promote the recycling of paper, metal, glass, and other recyclables.</td>
</tr>
<tr>
<td>AB 341 amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated by source reduced, recycled, or composted by the year 2020, and annually thereafter.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Water

**CCR, Title 24, Building Standards Code:** The California Green Building Standards Code (Part 11, Title 24) includes water efficiency requirements for new residential and non-residential uses, in which buildings shall demonstrate a 20-percent overall water use reduction.  
State  
**Consistent.** As discussed earlier, consistent with regulatory requirements, the Project must comply with applicable provisions of the OMC that in turn require compliance with Title 24 and the California Green Building Standards.

**SB X7-7:** The Water Conservation Act of 2009 sets an overall goal of reducing per-capita urban water use by 20 percent by December 31, 2020. The state is required to make incremental progress towards this goal by reducing per-capita water use by at least 10 percent by December 31, 2015. This is an implementing measure of the Water Sector of the AB 32 Scoping Plan. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convene, treat, and distribute water; it also reduces emissions from wastewater treatment.  
State  
**Consistent.** The Project’s mandatory consistency with the regulatory provisions of Title 24 would meet this performance-based standard.

### Construction

**CARB In-Use Off-Road Regulation:** CARB’s in-use off-road diesel vehicle regulation (“Off-Road Diesel Fleet

CARB  
**Consistent.** The Project would use construction contractors that would comply with this regulation.
### Table 15

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<table>
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<tr>
<th>Actions and Strategies</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Regulation”) requires the owners of off-road diesel equipment fleets to meet fleet average emissions standards pursuant to an established compliance schedule.</td>
<td>CARB</td>
<td><strong>Consistent.</strong> The Project would use construction contractors that would comply with this regulation.</td>
</tr>
</tbody>
</table>

**CARB In-Use On-Road Regulation:** CARB’s in-use on-road heavy-duty vehicle regulation (“Truck and Bus Regulation”) applies to nearly all privately and federally owned diesel fueled trucks and buses, as well as privately and publicly owned school buses with a gross vehicles weight rating greater than 14,000 pounds.

- CEC, Adoption Hearing, 2016 Building Energy Efficiency Standards.
- Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the “lifecycle” of a transportation fuel.
- California Public Resources Code Section 41780(a).
- California Public Resources Code Section 41780.01(a).
**Table 16**

**Consistency Analysis – 2017 Scoping Plan Update**

<table>
<thead>
<tr>
<th>Actions and Strategies</th>
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<tbody>
<tr>
<td><strong>SB 350:</strong> The Clean Energy and Pollution Reduction Act of 2015 increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by 2030. Required measures include: Increase RPS to 50 percent of retail sales by 2030. Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030. Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in IRPs to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.</td>
<td>CPUC, CEC, CARB</td>
<td><strong>Consistent.</strong> SCE is required to generate electricity that would increase renewable energy resources to 33 percent by 2020 and 50 percent by 2030. As SCE would provide electricity service to the Project, by 2030, the Project would use electricity consistent with the requirement of SB 350. As discussed earlier, SCE is positioned to receive at least 33 percent of electricity from renewable source by 2020. As required under SB 350, doubling the energy efficiency savings from final end uses of retail customers by 2030 would primarily rely on the existing suite of building energy efficiency standards under CCR Title 24, Part 6 (consistency with this regulation is discussed below) and utility-sponsored programs such as rebates for high-efficiency appliances, HVAC systems, and insulation. As discussed earlier, the Project would comply with CalGreen and Title 24 energy efficiency standards.</td>
</tr>
</tbody>
</table>

Implement Mobile Source Strategy (Cleaner Technology and Fuels)

- At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.
- At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.
- Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Cars regulations.
### Table 16  
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<tbody>
<tr>
<td>Medium- and heavy-duty GHG Phase 2.</td>
<td>CARB</td>
<td>Consistent. Under SB 375, CARB sets regional targets for GHG emissions reductions from passenger vehicles. In 2010, CARB established targets for 2020 and 2035 for each region. As required under SB 375, CARB is required to update regional GHG emissions targets every eight years. As part of the 2018 updates, CARB proposed a passenger-</td>
</tr>
<tr>
<td>Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOx standard.</td>
<td></td>
<td>reductions stringency on light duty autos and continue adding zero emission and plug in vehicles through 2030. CARB is also developing the Innovative Clean Transit measure to encourage the purchase of advanced technology buses, such as alternative fueled or battery powered buses. This would allow fleets to phase in cleaner technology in the near future. CARB is also in the process of developing proposals for new approaches and strategies to achieve zero emission trucks under the Advanced Clean Local Trucks (Last Mile Delivery) Program.</td>
</tr>
<tr>
<td>Last Mile Delivery: New regulation that would result in the use of low NOx or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.</td>
<td></td>
<td>The Project’s consistency with SCAG’s 2016-2040 RTP/SCS is discussed throughout this analysis. As implementation of the 2016-2040 RTP/SCS is expected to fulfill and exceed the region’s obligation under SB 375, the Project’s consistency with the 2016-2040 RTP/SCS also ensures its consistency with SB 375.</td>
</tr>
<tr>
<td>Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document “Potential VMT Reduction Strategies for Discussion.”</td>
<td></td>
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**Increase Stringency of SB 375 Sustainable Communities Strategy (2035 Targets)**
Table 16
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<td>vehicles related GHG reduction of 19 percent for 2035 for the SCAG region, which is more stringent than the current reduction target of 13 percent for 2035. As discussed, the Project would be consistent with the 2016-2040 RTP/SCS and by extension SB 375.</td>
</tr>
<tr>
<td>By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicles zones for heavy duty, road use, parking pricing, transit discounts)</td>
<td>CalSTA, Caltrans, CTC, OPR/SGC, CARB</td>
<td>Consistent. The Project would support this policy as code required parking spaces would be consistent with Title 24, which contains requirements for supporting electric vehicle charging stations.</td>
</tr>
<tr>
<td>Adopt a Low Carbon Fuel Standard with a CI reduction of 18 percent.</td>
<td>CARB</td>
<td>Consistent. This regulatory program applies to fuel suppliers not directly to land use development. GHG emissions related to vehicular travel associated with the Project would benefit from this regulation because fuel used by Project-related vehicles would be required to comply with LCFS. The current LCFS, adopted in 2007, requires a reduction of at least 10 percent in the carbon intensity (CI) of California’s transportation fuels by 2020. On September 27, 2017, CARB amended the LCFS regulation to target a 20 percent reduction in CI from a 2010 baseline by 2030.</td>
</tr>
<tr>
<td>Implement the Short-Lived Climate Pollutant Strategy by 2030:</td>
<td>CARB, CalRecycle, CDFA, SWRCB, Local air districts</td>
<td>Consistent. SB 605 was adopted in 2014 and directs CARB to develop a comprehensive Short-Lived Climate Pollutant (SLCP) strategy. SB 1383 was later adopted in 2016 to require CARB to set statewide 2030 emissions reduction targets of 40 percent for methane and hydrofluorocarbons and 50 percent black carbon emissions below 2013 levels. The Project would comply with the CARB SLCP Reduction Strategy, which limits the use of hydrofluorocarbons for refrigeration uses.</td>
</tr>
</tbody>
</table>

* SB 350 (2015-2016 Regular Session) Stats 2015, Ch. 547.
### Table 16

**Consistency Analysis – 2017 Scoping Plan Update**

<table>
<thead>
<tr>
<th>Actions and Strategies</th>
<th>Responsible Party(ies)</th>
<th>Project Consistency Analysis</th>
</tr>
</thead>
</table>

### Table 17

**Consistency with the 2016-2040 RTP/SCS**

<table>
<thead>
<tr>
<th>Actions and Strategies</th>
<th>Responsible Party(ies)</th>
<th>Consistency Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use Strategies: Reflect the changing population and demands, including combating gentrification</td>
<td>Local jurisdictions</td>
<td><strong>Consistent.</strong> The Project would consist of a memory care/assisted living facility containing 36 beds that would add to the supply of housing in metropolitan Orange County.</td>
</tr>
<tr>
<td>and displacement, by increasing housing supply at a variety of affordability levels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus new growth around transit.</td>
<td>Local jurisdictions</td>
<td><strong>Consistent.</strong> The Project would be located at the forefront of an emerging HQTA that is projected to encompass the Project area by 2040, according to the 2016-2040 RTP/SCS. The Project is located within 350 feet of OCTA 59 bus stops. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. Therefore, the Project would be consistent with the 2016-2040 RTP/SCS strategy of focusing growth near transit facilities.</td>
</tr>
<tr>
<td>Plan for growth around livable corridors, including growth on the Livable Corridors network.</td>
<td>SCAG, local jurisdictions</td>
<td><strong>Consistent.</strong> The Project is an infill development that would be consistent with the 2016-2040 RTP/SCS strategy of focusing growth near transit facilities.</td>
</tr>
<tr>
<td>Actions and Strategies</td>
<td>Responsible Party(ies)</td>
<td>Consistency Analysis</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Provide more options for short trips through Neighborhood Mobility Areas and Complete Communities.</td>
<td>SCAG, local jurisdictions.</td>
<td><strong>Consistent.</strong> Given that the Project proposes a memory care/assisted living facility, it is unclear to what degree the benefits of Neighborhood Mobility Areas and Complete Communities would reduce short trips by Project residents. However, the Project is located within walking distance of nearby transit stops and a regional park. Additionally, the Project would result in a decrease of 320 daily vehicle trips as compared with the site’s existing (former) use.</td>
</tr>
<tr>
<td>Protect natural and farmlands, including developing conservation strategies.</td>
<td>SCAG, local jurisdictions.</td>
<td><strong>Consistent.</strong> The Project is an infill development that would help reduce demand for growth in urbanizing areas that threaten greenfields and open spaces.</td>
</tr>
</tbody>
</table>

**Transportation Strategies**

| Manage congestion through programs like the Congestion Management Program, Transportation Demand Management, and Transportation Systems management strategies. | County transportation commissions, local jurisdictions. | **Consistent.** The Project is an infill development that would minimize congestion impacts on the region because of its proximity to public transit. Additionally, the Project would result in a decrease of 320 daily vehicle trips as compared with the site’s existing (former use). |

**Technological Innovation and 21st Century Transportation**

| Promote zero-emission vehicles.                                                        | SCAG, local jurisdictions.      | **Consistent.** While this action/strategy is not necessarily applicable on a project-specific basis, the Project would be consistent with the EV parking requirements set forth by Title 24. |

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City of Orange General Plan

As discussed in the Natural Resources Element of the City’s General Plan, the City has established a GHG emissions reduction goal of at least 15 percent of 2010 levels by 2020. To achieve this goal, the General Plan advocates primarily compact “infill” future development, focusing on introducing urban-scale mixed-use projects at locations near transportation corridors and transit, and creating additional retail and employment opportunities within the City that increase the range of goods and services available to residents and improve the community’s jobs-housing balance. The General Plan includes a broad spectrum of policies related to climate change. These policies have been integrated throughout the relevant General Plan elements, as detailed in Table NR-1 in the Natural Resources Element. Consistency of the Project with applicable policies from this table are discussed on Table 18. As discussed there, the Project would be substantially consistent with the City’s climate change policies.

<table>
<thead>
<tr>
<th>Table 18</th>
<th>Consistency with Applicable Policies of the Natural Resources Element</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy</strong></td>
<td><strong>Consistency Discussion</strong></td>
</tr>
<tr>
<td><strong>Issue: Community form</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Topic: Compact Development</strong></td>
<td>Consistent. The Project would provide an employment source near housing and on a street with transit options for non-motorized users of the site, including pedestrians. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center.</td>
</tr>
<tr>
<td><strong>Land Use Element</strong></td>
<td>The Project’s parking would be situated at the back of the proposed building, away from the Glassell Street.</td>
</tr>
<tr>
<td>1.1: Jobs and housing balance</td>
<td></td>
</tr>
<tr>
<td><strong>Urban Design Element</strong></td>
<td></td>
</tr>
<tr>
<td>1.1: Pedestrian-oriented places and connections</td>
<td></td>
</tr>
<tr>
<td>1.5: Street-oriented development, parking and commercial activities</td>
<td></td>
</tr>
<tr>
<td><strong>Issue: Community form</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Topic: Commercial use locations</strong></td>
<td>Consistent. The Project includes the infill development of a site that is currently developed with a vacant restaurant building and surface parking area. As discussed in response to Checklist Question 1(c) (Aesthetics – Scenic Quality Regulations), the design of the Project would compliment the surrounding neighborhood and would be subject to Design Review approval by the City to ensure the Project complies with applicable design standards.</td>
</tr>
<tr>
<td><strong>Urban Design Element</strong></td>
<td></td>
</tr>
<tr>
<td>6.1: Development standards for high quality building and site design integrated with infrastructure and circulation.</td>
<td></td>
</tr>
<tr>
<td>6.2: Infill development to benefit surrounding corridors/neighborhoods…</td>
<td></td>
</tr>
<tr>
<td><strong>Economic Development Element</strong></td>
<td></td>
</tr>
<tr>
<td>4.2: Reduce land, infrastructure and environmental deficiencies within commercial corridors.</td>
<td></td>
</tr>
<tr>
<td>Issue: Renewable Energy</td>
<td>Consistent. Although the Project Site is not currently located within a SCAG-designated HQTA, the site is in an area that is at the forefront of an emerging HQTA, projected to encompass the Project Site area by 2040, according to the 2016-2040 RTP/SCS. The OCTA 59 bus route, which includes stops within 350 feet of the Project Site, provides service generally along the Glassell Street/Grand Avenue corridor between University of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Topic: Reduced fossil fuel reliance</td>
<td>Natural Resources Element</td>
</tr>
<tr>
<td>Policy</td>
<td>Consistency Discussion</td>
</tr>
<tr>
<td>2.2: Alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods.</td>
<td>Consistent. Although the Project Site is not currently located within a SCAG-designated HQTA, the site is in an area that is at the forefront of an emerging HQTA, projected to encompass the Project Site area by 2040, according to the 2016-2040 RTP/SCS. The OCTA 59 bus route, which includes stops within 350 feet of the Project Site, provides service generally along the Glassell Street/Grand Avenue corridor between University of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Issue: Transit</td>
<td>Consistent. Although the Project Site is not currently located within a SCAG-designated HQTA, the site is in an area that is at the forefront of an emerging HQTA, projected to encompass the Project Site area by 2040, according to the 2016-2040 RTP/SCS. The OCTA 59 bus route, which includes stops within 350 feet of the Project Site, provides service generally along the Glassell Street/Grand Avenue corridor between University of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center.</td>
</tr>
<tr>
<td>Topic: Adequate transit to employment centers</td>
<td>Circulation &amp; Mobility Element</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Policy</td>
<td>Consistency Discussion</td>
</tr>
<tr>
<td>3.3: Incorporate transit-oriented design within commercial, employment, medium density residential, and mixed-use areas.</td>
<td>Consistent. Although the Project Site is not currently located within a SCAG-designated HQTA, the site is in an area that is at the forefront of an emerging HQTA, projected to encompass the Project Site area by 2040, according to the 2016-2040 RTP/SCS. The OCTA 59 bus route, which includes stops within 350 feet of the Project Site, provides service generally along the Glassell Street/Grand Avenue corridor between University of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Issue: Transit</td>
<td>Consistent. Although the Project Site is not currently located within a SCAG-designated HQTA, the site is in an area that is at the forefront of an emerging HQTA, projected to encompass the Project Site area by 2040, according to the 2016-2040 RTP/SCS. The OCTA 59 bus route, which includes stops within 350 feet of the Project Site, provides service generally along the Glassell Street/Grand Avenue corridor between University of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center.</td>
</tr>
<tr>
<td>Topic: Non-motorized transporation</td>
<td>Noise Element</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
Table 18  
Consistency with Applicable Policies of the Natural Resources Element

<table>
<thead>
<tr>
<th>Policy</th>
<th>Consistency Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistency with Applicable Policies of the Natural Resources Element</td>
<td>of California Irvine and Anaheim. This line provides direct service to the Orange Transportation Center and Santa Ana Regional Transportation Center, both of which are Metrolink stations and major hubs for local and regional bus lines. The OCTA 59 bus route has approximately a 25-minute service frequency during peak commute hours. The Project Site is also located approximately 3,500 feet southwest of the Orange Transportation Center. As discussed in response to Checklist Question 13(a) (Noise – Increase in Noise Levels), the Project’s traffic noise impacts would be less than significant.</td>
</tr>
<tr>
<td><strong>Issue:</strong> Transportation</td>
<td>Consistent. The Project includes the infill development of a site that is currently developed with a vacant restaurant building and surface parking area.</td>
</tr>
<tr>
<td><strong>Topic:</strong> Shorten travel distances</td>
<td>Growth Management Element</td>
</tr>
<tr>
<td>2.4: Infill development and mixed-use opportunities wherever possible as developable space becomes more limited.</td>
<td></td>
</tr>
<tr>
<td><strong>Issue:</strong> Air Quality</td>
<td>Consistent. As discussed in response to Checklist Question 3(a) (Air Quality – AQMP Consistency), the Project would be consistent with the AQMP. Through the Project Site’s location on Glassell Street, which is well served by transit, the Project is pedestrian friendly.</td>
</tr>
<tr>
<td><strong>Topic:</strong> Reduce vehicle emissions</td>
<td>Natural Resources Element</td>
</tr>
<tr>
<td>2.1: Implement and enforce regional air quality management plans.</td>
<td></td>
</tr>
<tr>
<td>2.2: Support alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods.</td>
<td></td>
</tr>
<tr>
<td><strong>Issue:</strong> Water Management</td>
<td>Consistent. As discussed in response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality), the Project would incorporate best management practices (BMPs) to ensure that no significant water quality impacts would occur.</td>
</tr>
<tr>
<td><strong>Topic:</strong> Water use efficiency and reduced consumption</td>
<td>Natural Resources Element</td>
</tr>
<tr>
<td>2.14: Reduce pollutant runoff from new development through use of Best Management Practices.</td>
<td>With the exception of some small landscaped areas, the Project Site is currently entirely developed with impervious surfaces. Under post-Project conditions, the Project Site would remain almost entirely impervious. However, as shown on</td>
</tr>
</tbody>
</table>
Table 18
Consistency with Applicable Policies of the Natural Resources Element

<table>
<thead>
<tr>
<th>Policy</th>
<th>Consistency Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.15: Minimize impervious surfaces and associated urban runoff pollutants in new development and redevelopment.</td>
<td>Table 21 under response to Checklist Question 10(c) i) (Hydrology and Water Quality – Drainage), under the post-Project conditions, the amount of runoff from the Project Site would be controlled to below existing runoff levels.</td>
</tr>
</tbody>
</table>

*Source: Table NR-1, Natural Resources Element, City of Orange General Plan.*

**Conclusion**

In summary, the plan consistency analysis provided above demonstrates that the Project complies with the plans, policies, regulations, and GHG reduction actions/strategies outlined in the Climate Change Scoping Plan and First Update, the 2017 Scoping Plan Update, the 2016-2040 RTP/SCS, and the City’s General Plan. Consistency with the above plans, policies, regulations, and GHG reduction actions/strategies would reduce the Project’s incremental contribution to global and statewide GHG emissions. Therefore, the Project would not conflict with any applicable plan, policy, or regulation or an agency adopted for the purpose of reducing emissions of GHG. Furthermore, because the Project is consistent and does not conflict with these plans, policies, and regulations, the Project’s GHG emissions would not result in a significant impact on the environment, and Project-specific impacts with regard to climate change would be less than significant.

**Project Emissions**

As discussed above, compliance with applicable GHG emissions reductions plans renders a Project less than significant. In support of the consistency analysis provided above, the following quantitative calculations of the Project’s GHG emissions are provided. The Project would result in direct and indirect GHG emissions generated by the following emissions sources:

- **Construction**: emissions associated with construction-related equipment and vehicle use.
- **Area Source**: emissions associated with the on-site use of landscape and other powered equipment.
- **Energy Source**: emissions associated with the Project’s electricity and natural gas use for space heating and cooling, water heating, energy consumption, and lighting.
- **Mobile Source**: emissions associated with the Project’s related vehicle travel.
- **Water/Wastewater**: emissions associated with energy used to pump, convey, deliver, and treat water.
Construction

Project construction is anticipated to last 18 months between 2020 and 2021. A summary of construction details (e.g. schedule, equipment mix, and vehicular trips) and CalEEMod modeling output files are provided in Appendix A. The GHG emissions associated with the construction of the Project were calculated for the 17 months of construction activity. A summary of GHG emissions for each year of construction is presented on Table 19.

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (MTCO\text{e})</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>282</td>
</tr>
<tr>
<td>2021</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>394</td>
</tr>
<tr>
<td>Amortized over 30 years</td>
<td>13.1</td>
</tr>
</tbody>
</table>

Source: NTEC, 2019.

As shown on Table 19, construction of the Project is estimated to generate a total of 394 MTCO\text{e}. As recommended by the SCAQMD, the total GHG construction emissions were amortized over the 30-year lifetime of the Project (i.e. total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate that can be added to the Project’s annual operational emissions) in order to determine the Project’s annual GHG emissions inventory. This results in annual Project construction emissions of 13.1 MTCO\text{e}.

Operations

As shown on Table 20, the Project is estimated to generate approximately 330 MTCO\text{e} per year, including the addition of its annualized construction-related GHG emissions. As the site’s existing use was estimated to generate approximately 866 MTCO\text{e} per year, development of the Project would result in a net decrease of site-associated GHG emissions.

\[ SCAQMD \text{ Governing Board Agenda Item 31. December 5, 2008. } \]
Table 20
Annual GHG Emissions Summary

<table>
<thead>
<tr>
<th>Source</th>
<th>Emissions (MTCO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>1</td>
</tr>
<tr>
<td>Energy</td>
<td>63</td>
</tr>
<tr>
<td>Mobile</td>
<td>222</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>15</td>
</tr>
<tr>
<td>Water/Wastewater</td>
<td>16</td>
</tr>
<tr>
<td>Construction</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total Emissions</strong></td>
<td><strong>330</strong></td>
</tr>
</tbody>
</table>

*Source: NTEC, 2019.*

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

**Cumulative Impacts**

The analysis of GHG emissions impacts, above, is a cumulative analysis. As discussed, the Project’s GHG emissions impacts would not be cumulatively considerable.
9. **HAZARDS AND HAZARDOUS MATERIALS**

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

**Impact Analysis**

(a) **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

The City follows the County’s Hazardous Materials Inspection and Enforcement Plan. To prevent accidents, and ensure proper handling, routine inspections are conducted at businesses within the City that store, use, or handle hazardous materials. The City concentrates production of hazardous materials within its industrial area, separated from residential areas, educational uses, and institutional facilities. The City also identifies businesses transporting, manufacturing, using, and storing hazardous chemicals, and requires such
businesses to exercise caution and to mitigate potential negative effects on surrounding land uses prior to obtaining businesses licenses.

During the Project’s construction phase, construction equipment would use limited amounts of hazardous and flammable substances such as petroleum products like gasoline, diesel fuel, and petroleum-based oils. During construction, this equipment may require maintenance that could result in releases of oil, diesel fuel, transmission fluid, or other materials. However, BMPs included in the Project’s required SWPPP would be implemented to address handling and containment of any hazardous substances during the construction phase of the Project. Compliance with these requirements would avoid significant hazard to public or environment through release of hazardous materials during Project construction.

As a memory care facility, the types of hazardous materials that would be used at the facility would include cleaning supplies and lawn/landscaping fertilizers/pesticides that are typical of a residential use. The facility could require the need for medical waste disposal, for used needles and unused medicine. However, the operators of the facility would be required to comply with existing regulations outlined in Sections 117600-118360 of the California Health and Safety Code to ensure safe and proper disposal. Through compliance with existing regulations, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, Project impacts related to the routine transport, use, or disposal of hazardous materials would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The section is based in part on the following (refer to Appendix F):


Leighton Consulting, Inc. (Leighton) performed a Phase I Environmental Site Assessment (ESA) of the Project Site to identify, to the extent feasible and pursuant to the processes prescribed in ASTM International (ASTM) E1527-13, recognized environmental conditions (RECs), historical RECs (HRECs), or controlled RECs (CRECs) in connection with the Project Site.

RECs are defined, according to ASTM E1527-13 as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2)

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under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not RECs.”

HRECs are defined, according to ASTM E1527-13 as “a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.” CRECs are defined, according to ASTM E1527-13 as “a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject of the implementation of required controls.”

The Phase I ESA revealed no evidence of RECs, HRECs, or CRECs in connection with the Project Site, except for the following:

- The historic use of the Project Site as an orchard from at least 1938 until approximately 1960 and the potential use of pesticides associated with this historic land use.

No evidence of CRECs or HRECs was identified for the Project Site.

Based on the findings of the Phase I ESA, Leighton recommended the following:

- Collect soil samples from the Project Site to assess the presence of organochlorine pesticides (OCPs) and arsenic in the near-surface soil.

As a result of the findings of the Phase I ESA, Leighton conducted a Limited Phase II ESA to determine what, if any, environmental impacts are present in the near surface soil as a result of the historic use of the Project Site, which could affect future redevelopment of the site.

The Phase II ESA concluded that soil sample analytical results indicate that soil in the southwest portion of the Project Site, in the vicinity of boring LB1, contains dieldrin at concentrations exceeding the Residential Screening Levels (RSL) for residential land use. The exceedances of dieldrin are primarily limited to soil samples collected at a depth of 0.5 feet bgs, with the exception of LB1-SW1-2.5 at 2.5 feet bgs. The northwestern lateral extent of the dieldrin-impacted soil is not well defined due to limitations posed by the current onsite structure. However, borings LB2, LB7, and LB8 provide a rough estimate of lateral delineation and indicate that the dieldrin-impacted soil is confined to the southeast portion of the Project Site.

Arsenic was detected in near surface soil samples throughout the Project Site at concentrations ranging from 1.9 milogram/kilogram (mg/kg) to 19 m/kg. Excluding arsenic data collected from boring LB1 (which is recommended for removal based on co-located elevated dieldrin concentrations), the 95 percent Upper Confidence Level (UCL) of the population mean for arsenic was calculated to be 11.22 mg/kg. Based on the results of statistical analysis, arsenic in near surface soil at the Project Site is not considered a contaminant of concern and not anticipated to pose a significant health risk to future Project residents/users.
To ensure that Project impacts related to dieldrin-impacted soil are less than significant, the Project Applicant will implement Mitigation Measure HAZ-1, which includes excavation and off-site disposal of soil to a depth of approximately 2 feet bgs in the southeastern corner of the Project Site. Deeper removals may be necessary in the vicinity of step-out boring LB1-SW2 and can be confirmed during removal activities. Upon completion of removal activities, confirmation soil samples would be collected from the resulting excavation area to ensure that the dieldrin-impacted soil has been effectively removed. All work would be completed under the oversight of a California-registered Professional Geologist or Engineer with environmental consulting experience.

Given the age of the existing restaurant building on the Project Site, it is possible that the building could contain asbestos-containing materials (ACMs) and lead-based paint (LBP). As such, the Project Applicant will implement Mitigation Measures HAZ-2 and HAZ-3, which includes the identification and abatement of ACMs and LBP by qualified professionals.

Thus, with implementation of Mitigation Measures HAZ-1 HAZ-2, and HAZ-3, the Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and impacts related to this issue would be less than significant.

**Mitigation Measures:**

**HAZ-1:** Prior to issuance of a building permit, the soils in the southeastern corner of the Project Site, as indicated on Figure 2 of the Limited Phase II ESA dated September 6, 2019, shall be excavated to a depth of approximately 2 feet bgs. Deeper removals may be necessary in the vicinity of step-out boring LB1-SW2 and shall be confirmed by a California-registered Professional Geologist or Engineer with environmental consulting experience during removal activities (refer to Figure 2 of the Limited Phase II ESA dated September 6, 2019). Upon completion of removal activities, confirmation soil samples will be collected from the resulting excavation area to ensure that the dieldrin-impacted soil has been effectively removed. All work will be completed under the oversight of a California-registered Professional Geologist or Engineer with environmental consulting experience. All excavated soil shall be disposed of at an appropriate landfill or other waste receiveal facility.

**HAZ-2:** Prior to issuance of a demolition permit, the Project Applicant shall retain a qualified professional to identify any ACMs in the existing building. If ACMs are identified, abatement of the ACMs shall conducted by a qualified professional in accordance with all applicable federal, state, and local regulations.

**HAZ-3:** Prior to issuance of a demolition permit, the Project Applicant shall retain a qualified professional to identify any LBP in the existing building. If LBP is identified, abatement of the LBP shall conducted by a qualified professional in accordance with all applicable federal, state, and local regulations.

**Significance Determination:** Less Than Significant With Mitigation Incorporated
(c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The Holy Family Cathedral School is located adjacent to the Project Site to the north. However, as discussed previously in response to Checklist Question 3(d) (Air Quality – Sensitive Receptors) and in response to Checklist Question 8(a) (Hazards and Hazardous Materials – Hazardous Materials), the proposed memory care facility would not emit hazardous emission or handle hazardous materials. The operators of the facility would be required to comply with existing regulations outlined in Sections 117600-118360 of the California Health and Safety Code to ensure safe and proper disposal. Through compliance with existing regulations, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Thus, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

California Government Code Section 65962.5 requires various state agencies to compile lists of hazardous waste disposal facilities, unauthorized release from underground storage tanks, contaminated drinking water wells, and solid waste facilities from which there is known migration of hazardous waste. In meeting the provisions in Government Code Section 65962.5, commonly referred to as the “Cortese List,” database resources that provide information regarding identified facilities or sites include EnviroStor, GeoTracker, and other lists compiled by the California Environmental Protection Agency. A review of the EnviroStor database shows that the Project Site is not listed. Thus, the Project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5.

Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

"Department of Toxic Substances Control, EnviroStor, [https://www.envirostor.dtsc.ca.gov/public/map/](https://www.envirostor.dtsc.ca.gov/public/map/), August 5, 2019"
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The airport closest to the Project Site is the John Wayne Airport located approximately 9.5 miles south of the Project Site. The Project Site is not located within an airport land use plan. Thus, the Project would not result in a safety hazard or excessive noise for people residing or working in the project area. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

**Emergency Operations Plan**

The City has an emergency plan, which establishes emergency preparedness and emergency response procedures for both peacetime and wartime disasters. The plan is termed an “Emergency Operations Plan,” prepared in accordance with the State Office of Emergency Services guidelines for multi-hazard functional planning. The plan consists of three parts: 1) a basic plan; 2) annexes which address specific functions and duties of response agencies; and 3) a directory of emergency response resources. Rather than focusing on specific responses for specific hazards, the City’s plan concentrates on specific agency response for any type of disaster. For example, in the event of an earthquake, flood, or industrial accident, the Orange Fire Department is responsible for fire suppression, emergency medical care, and rescue operations.

**Emergency Shelters**

The nearest Primary Site for Emergency Shelters/Assembly Points is Orange High School located at 525 N. Shaffer Street, approximately 1.6 miles north of the Project Site. All elementary schools Citywide are considered Secondary Sites. The nearest elementary school to the Project Site is the Holy Family Cathedral School, located adjacent to the Project Site to the north.

**Emergency Access and Evacuation**

All City arterials are recognized as primary emergency response routes. In addition, non-arterials can be secondary emergency response routes. The City’s Residential Neighborhood Traffic Management Program,

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which identifies traffic management and traffic calming tools, specifies that emergency vehicle access should be accommodated consistent with response standards with implementation of appropriate traffic management measures. Additionally, if current emergency vehicle access does not meet existing response standards, traffic calming efforts should not further degrade response times. The City’s Emergency Operations Plan does not indicate evacuation routes for emergency situations. The routes of escape from disaster-stricken areas would depend on the scale and scope of the disaster.

Glassell Street is the closest designated evacuation corridor to the Project Site, running adjacent to the site to the east. The Project would not affect access to this street during construction, because all construction equipment and vehicles would be staged on the Project Site and not on the street. The Project would not affect emergency access. Construction and internal circulation would comply with the applicable fire codes, as required by the Orange Fire Department. Thus, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, Project impacts related to interference with an emergency response or evacuation plan would be less than significant.

**Significance Determination: Less Than Significant Impact**

**Mitigation Measures: None**

(g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The Project Site is not located within a Wildland High Fire Hazard area or Wildland Very High Fire Hazard area. Thus, the Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination: No Impact**

**Mitigation Measures: None**

**Cumulative Impacts**

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. Impacts related to hazards and hazardous materials are site-specific. The City gauges such impacts on a project-by-project basis. As discussed above, the Project would not result in any significant impacts.
related to hazards or hazardous materials. Therefore, cumulative impacts related to hazards and hazardous materials would be less than significant.
## 10. HYDROLOGY AND WATER QUALITY.

_Would the project:_

<table>
<thead>
<tr>
<th>Question</th>
<th>Less Than Significant Impact</th>
<th>Potentially Significant Impact with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</td>
<td></td>
<td></td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>(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 that would:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>i) result in substantial erosion or siltation on or off site;</td>
<td></td>
<td></td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;</td>
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<td>☑</td>
<td></td>
</tr>
<tr>
<td>iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or</td>
<td></td>
<td></td>
<td>☑</td>
<td></td>
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<tr>
<td>iv) impede or redirect flood flows.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(d) In flood hazard, tsunami, or seich zones, risk release of pollutants due to project inundation?</td>
<td></td>
<td></td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</td>
<td></td>
<td></td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>(f) Potentially impact stormwater runoff from construction activities?</td>
<td></td>
<td></td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>(g) Potentially impact stormwater runoff from post-construction activities?</td>
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<td>☑</td>
<td></td>
</tr>
<tr>
<td>(h) Would the project result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?</td>
<td></td>
<td></td>
<td></td>
<td>☑</td>
</tr>
<tr>
<td>(i) Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?</td>
<td></td>
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<td></td>
<td>☑</td>
</tr>
</tbody>
</table>
10. HYDROLOGY AND WATER QUALITY.

Would the project:

<table>
<thead>
<tr>
<th>Impact Analysis</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(j) Create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(k) Create significant increases in erosion of the project site or surrounding areas?</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Impact Analysis

(a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The discussion below is based in part on the following (refer to Appendix G):


Construction

Clearing, grading, excavation, and construction activities associated with the Project may impact water quality due to sheet erosion of exposed soils and subsequent deposition of particulates into local drainages, if construction occurs during a storm event. Grading activities, in particular, lead to temporarily exposed areas of loose soil, as well as sediment stockpiles, that can become susceptible to uncontrolled sheet flow, if left uncovered during a storm event. Although erosion occurs naturally in the environment, primarily from weathering by water and wind action, improperly managed construction activities can lead to substantially accelerated rates of erosion that are considered detrimental to the environment.

Prior to the issuance of grading permits, the Project Applicant would be required to comply with City and local construction requirements and provide a Notice of Intent (NOI) and Waste Discharger Identification (WDID) Number issued from the State Water Resources Control Board (SWRCB) in accordance with the requirements of the General Construction Permit to ensure the potential for soil erosion and construction impacts are minimized. In accordance with the General Construction Permit (Order No. 2009-0009-DWQ), the following Permit Registration Documents (PRDs) are required to be submitted to the SWRCB prior to commencement of construction activities:

- Notice of Intent;
- Risk Assessment (Standard or Site-Specific);
- Site Map;
• Stormwater Pollution Prevention Plan (SWPPP); and

• Annual Fee and Certification.

Construction BMPs

In accordance with the General Construction Permit, a construction SWPPP must be prepared and implemented for the Project Site, and revised as necessary, as administrative or physical conditions change. The SWPPP must be made available for review upon request, will describe construction BMPs that address pollutant source reduction, and provide measures/controls necessary to mitigate potential pollutant sources. These measures/controls include, but are not limited to: erosion controls, sediment controls, tracking controls, non-storm water management, materials & waste management, and good housekeeping practices, including the following:

• Erosion control BMPs, such as hydraulic mulch, soil binders, and geotextiles and mats, protect the soil surface by covering and/or binding the soil particles. Temporary earth dikes or drainage swales may also be employed to divert runoff away from exposed areas and into more suitable locations. If implemented correctly, erosion controls can effectively reduce the sediment loads entrained in storm water runoff from construction sites.

• Sediment controls, such as silt fencing and gravel bag berms, are designed to intercept and filter out soil particles that have been detached and transported by the force of water. All storm drain inlets on the Project Site or within the Project Site vicinity (i.e., along the street immediately adjacent to the Project Site) should be adequately protected with an impoundment (i.e., gravel bags) around the inlet and equipped with a sediment filter (i.e., fiber roll). Bags should also be placed around areas of soil disturbing activities, such as grading or clearing.

• Stabilize all construction entrance/exit points along Glassell Street to reduce the tracking of sediments onto adjacent streets by proper implementation of crushed aggregate and rumble racks as outlined within CASQA BMP sheet TC-1. Wind erosion controls such as wind screens and/or watering should be employed in conjunction with tracking controls.

• Non-storm water management BMPs prohibit the discharge of materials other than storm water, as well as reduce the potential for pollutants from discharging at their source. Examples include avoiding paving and grinding operations during the rainy season (i.e., October 1 through April 30 each year) where feasible, and performing any vehicle equipment cleaning, fueling, and maintenance in designated areas that are adequately protected and contained.

• Waste management consists of implementing procedural and structural BMPs for collecting, handling, storing and disposing of wastes generated by a construction project to prevent the release of waste materials into storm water discharges. Examples include concrete waste management, solid waste management, and sanitary septic waste management.
Prior to commencement of construction activities, the General Construction Permit requires the Project SWPPP to be prepared in accordance with the site-specific sediment risk analyses, with erosion and sediment controls proposed for each phase of construction for the Project. The phases of construction would define the maximum amount of soil disturbed, the appropriately sized sediment basins (if necessary) and other control measures to accommodate all active soil disturbance areas and the appropriate monitoring and sampling plans. All selected BMPs for Erosion and Sediment Control will be shown on the Erosion and Sediment Control Plan(s) and the SWPPP documents.

Post-Construction BMPs

The Project includes demolition and removal of the existing restaurant building, surface parking area, and all other structures from the Project Site and development of the Project Site with a memory care facility, which includes on-site circulation and a surface parking area. The pollutants of concern for water quality are those pollutants that are anticipated (expected) or potentially could be generated by the Project, based on past and proposed land uses, along with those pollutants that have been identified by regulatory agencies as potentially impairing beneficial uses in receiving water bodies. Based on the proposed memory care use for the Project, the following pollutants could be expected: suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, toxic organic compounds, and trash and debris. The primary potential sources for these pollutants would be any areas traveled by vehicles, the parking area, and trash/recycling areas. The BMPs proposed for the Project would address these pollutants, if they are present.

To help prevent long-term water quality impacts associated with land use changes and in accordance with the requirements of the City and consistency with the regional Municipal Separate Storm Sewer System (MS4) storm water permit issued by the Santa Ana Regional Water Quality Control Board (RWQCB) (Order No. R8-2009-0030, amended by Order No. R8-2010-0062; NPDES Permit No. CAS618030), new development and significant redevelopment projects must prepare and implement a project-specific Water Quality Management Plan (WQMP) aimed at reducing pollutants in post-development runoff. Specifically, a project-specific WQMP includes RWQCB approved BMPs, where applicable, that address post-construction management of storm water runoff water quality. As part of the WQMP, projects must incorporate low impact development (LID), site design and source control BMPs to address post-construction storm water runoff management. In addition, new development and redevelopment projects are required to implement site design/LID and source control BMPs applicable to their specific priority project categories, as well as implement treatment control BMPs where necessary. Selection of LID and additional treatment control BMPs is based on the pollutants of concern for the specific project site and the BMP’s ability to effectively treat those pollutants, in consideration of site conditions and constraints.

In the proposed condition, storm water runoff from the majority of the Project Site would be collected in a cross gutter and conveyed to a storm water BMP facility consisting of a Modular Wetland System pretreatment unit and underground perforated storage infiltration tank located in the western portion of the site. Runoff from the courtyard area along the south side of the building would be collected and conveyed in proposed storm drain to the same BMP facility. The BMP facility would provide water quality treatment.
and retention via infiltration for the Project Design Capture Volume (DCV). In larger storm events, overflow would discharge from the pretreatment unit via a secondary storm drain, which would convey overflow to a pop-up drain emitter located on the neighboring property. When pressurized, the pop-up drain will allow overflow to drain out and sheet flow southerly as it does in the existing condition.

The overall approach to water quality treatment for the Project would include the incorporation of site design/LID strategies and source control measures throughout the sites in a systematic manner that maximizes the use of LID features to provide treatment of storm water and reduce runoff. LID BMPs are engineered facilities that are designed to retain or biotreat runoff on the Project Site. The current term MS4 Storm Water Permit requires the evaluation and use of LID features using the following hierarchy of treatment: infiltration, evapotranspiration, harvest/reuse, and biotreatment, etc. The full LID Design Storm Capture Volume for the Project would be met with the use of a storm water BMP facility consisting of a Modular Wetland System pretreatment unit and underground perforated storage infiltration tank. As stated above, storm water runoff would flow to the Modular Wetland System for pretreatment and continue to the underground perforated storage tank for infiltration.

Thus, with the compliance to regulatory requirements and the BMPs established for the Project in a final Water Quality Management Plan, Project construction and operation would not result in a violation of any water quality standard, Therefore, Project impacts related to water quality would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(b) Would the project substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

With the exception of some small landscaped areas, the Project Site is entirely developed with impervious surfaces. During storm events, water flows from the Project Site to the local storm drain system and does not infiltrate at the Project Site to groundwater levels. The Project Site is not a source of groundwater recharge. Under post-Project conditions, the Project Site would remain almost entirely impervious. Thus, the Project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Therefore, impacts related to this issue would be less than significant.

**Significance Determination:** No Impact

**Mitigation Measures:** None
(c) i) 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 result in substantial erosion or siltation on or off-site?

Runoff from the Project Site discharges to Santiago Creek Channel, which flows to the Santa Ana River, which discharges to the Pacific Ocean. At the location where the Project Site discharges to the Santiago Creek Channel and confluences with the Santa Ana River, both channels are stabilized. This discharge condition would remain the same under the proposed condition. Table 21 shows the pre-development and post-development discharge for the Project Site for the indicated frequency of storm (Q2).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Volume (acre feet)</th>
<th>Velocity (feet/second)</th>
<th>Time of Concentration (minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Development</td>
<td>0.11</td>
<td>1.16</td>
<td>7.94</td>
</tr>
<tr>
<td>Post-Development</td>
<td>0.09</td>
<td>1.13</td>
<td>8.37</td>
</tr>
</tbody>
</table>


As shown, under the post-development condition, the Project would result in a reduction in the overall amount and velocity of runoff from the Project Site for Q2 storm events when compared to the existing condition. As under the existing condition, runoff from the Project Site would be controlled as to not result in downstream erosion or siltation. Thus, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off-site. Therefore, Project impacts related to erosion and siltation would be less than significant.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

(c) ii) 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 result in flooding on or off-site?

No streams or rivers are located near the Project Site. With the exception of small landscaped areas, the Project Site is entirely developed with impervious surfaces, during storm events, runoff from the Project Site enters the City local storm drain system. Under post-Project conditions, the Project Site also would be almost entirely impervious, and the amount and velocity of runoff from the Project Site would be somewhat less than under the existing condition (refer to Table 21). The Project would not increase the amount of runoff from the Project Site and would not cause flooding. Thus, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site. Therefore, no impacts related to this issue would occur as a result of the Project.
Significance Determination: No Impact

Mitigation Measures: None

(c) iii) 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 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?

As discussed above, with the exception of small landscaped areas, the Project Site is entirely developed with impervious surfaces, during storm events, runoff from the Project Site enters the City local storm drain system. Under post-Project conditions, the Project Site also would be almost entirely impervious, and the amount and velocity of runoff from the Project Site would be somewhat less than under the existing condition (refer to Table 21). The Project would not increase the amount of runoff from the Project Site and would not exceed the capacity of the existing storm drain. Additionally, the Project Applicant would be required to design the hydrology for the Project Site to meet the City’s storm runoff requirements. Refer to response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality) regarding the Project’s less-than-significant impacts related to water quality. Thus, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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. Therefore, no impacts related to storm drain capacity would occur as a result of the Project, and impacts related to water quality would be less than significant.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

(c) iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would impede or redirect flood flows?

The Project Site is not within a flood zone. Thus, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would impede or redirect flood flows.
which would impede or redirect flood flows. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(d) In a flood hazard, tsunami, or seiche zone, would the project risk release of pollutants due to project inundation?

As stated in response to Checklist Question 10(c) iv) (Hydrology and Water Quality – Flood Flows), the Project Site is not within a flood hazard zone. Due to the City distance from the Pacific Ocean (approximately 13 miles), the Project Site is not subject to tsunamis. Additionally, the Project Site is not located near any large bodies of water and is not subject to seiches. Portions of the City are susceptible to flood events related to dam failure resulting from a significant earthquake. The Villa Park Dam and Santiago Dam are located along Santiago Creek in the foothills of East Orange. There are substantially intervening land uses, structures, and open areas between these dams and the Project Site. Additionally, a review of the California Inundation Map maintained by the California Department of Water Resources, Division of Safety of Dams, the Project Site is not within a dam inundation area. Additionally, the Project includes development of a memory care facility, which would not have any significant sources of pollutants. Thus, the Project would not risk release of pollutants due to project inundation. Therefore, no impacts would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management?

Regarding Project impacts related to water quality, refer to response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality). Regarding Project impacts related to groundwater, refer to response to Checklist Question 10(b) (Hydrology and Water Quality – Groundwater).

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

____________________________________

(f) Would the project potentially impact stormwater runoff from construction activities?

Regarding Project impacts related to water quality, refer to response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality).

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(g) Would the project potentially impact stormwater runoff from post-construction activities?

Regarding Project impacts related to water quality, refer to response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality).

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(h) Would the project result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?

Regarding Project impacts related to water quality, refer to response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality).

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(i) Would the project result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?

Regarding Project impacts related to water quality, refer to response to Checklist Question 10(a) (Hydrology and Water Quality – Water Quality).

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(j) Would the project create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?

With the exception of small landscaped areas, the Project Site is entirely developed with impervious surfaces, during storm events, runoff from the Project Site enters the City local storm drain system. Under post-Project conditions, the Project Site also would be almost entirely impervious, and the amount and
velocity of runoff from the Project Site would be somewhat less than under the existing condition (refer to Hydro-1). The Project would not increase the amount of runoff from the Project Site and would not exceed the capacity of the existing storm drain. Additionally, the Project Applicant would be required to design the hydrology for the Project Site to meet the City’s storm runoff requirements. Thus, the Project would not create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

**(k) Would the project create significant increases in erosion of the project site or surrounding areas?**

Refer to response to Checklist Question 7(c) i) (Hydrology and Water Quality – Soil Erosion) for a discussion of soil erosion.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

**Cumulative Impacts**

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. In an urbanized area, such as the setting for the Project and cumulative projects, impacts related to hydrology and water quality are addressed by the City on a project-by-project basis. Each project is required to comply with applicable drainage and water quality standards. As discussed above, the Project’s impacts related to hydrology and water quality would be less than significant. Therefore, cumulative impacts related to hydrology and water quality would be less than significant.
11. LAND USE AND PLANNING. Would the project:

<table>
<thead>
<tr>
<th>(a) Physically divide an established community?</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td></td>
<td></td>
<td></td>
<td>☑</td>
</tr>
</tbody>
</table>

Impact Analysis

(a) Would the project physically divide an established community?

The Project Site is located in an urbanized area of the City that is already served by existing well-established roadway and utility infrastructure. The Project includes development of the Project Site with a memory care facility associated with the existing senior care facility located adjacent to the south. Thus, the Project would not physically divide an established community. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Consistency with Regional Plans

Southern California Association of Governments

As discussed previously in response to Checklist Question 3(a) (Air Quality – AQMP Consistency), the Southern California Association of Governments (SCAG) functions as the Metropolitan Planning Organization (MPO) for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The SCAG region encompasses a population exceeding 18 million persons in an area of more than 38,000 square miles. As the federally-designated MPO, SCAG is mandated to research and create plans for transportation, growth management, hazardous waste management, and air quality. Applicable SCAG publications are discussed below.

2016-2040 RTP/SCS

On April 7, 2016, the Regional Council of SCAG adopted the 2016-2040 RTP/SCS, which includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public
health, and meet the NAAQS as set forth by the CAA. As such, the 2016-2040 RTP/SCS contains a regional commitment for the broad deployment of zero- and near-zero-emission transportation technologies in the 2016-2040 timeframe and clear steps to move toward this objective. The 2016-2040 RTP/SCS puts forth aggressive strategies addressing technology development and deployment, energy security, cost certainty, increased public support for infrastructure, GHG emissions reduction, and economic development.

The 2016-2040 RTP/SCS provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play, and how they will move around. It is designed to promote safe, secure, and efficient transportation systems to provide improved access to opportunities, such as jobs, education, and healthcare. Its emphasis on transit and active transportation is designed to allow residents to lead a healthier, more active lifestyle. Its goal is to create jobs, ensure the region’s economic competitiveness through strategic investments in the goods movement system, and improve environmental and health outcomes for its residents by 2040. More importantly, the RTP/SCS is also designed to preserve what makes the region special, including stable and successful neighborhoods and array of open spaces for future generations.

The 2016-2040 RTP/SCS also includes examples of measures that could reduce impacts from planning, development, and transportation. It notes, however, that the example measures are not intended to serve as any kind of checklist to be used on a project-specific basis. Since every project and project setting is different, project-specific analysis is needed to identify applicable and feasible mitigation. These mitigation measures are particularly important where streamlining mechanisms under SB 375 are utilized.

The 2016-2040 RTP/SCS plans to concentrate future development and provide higher intensity development, including residential and mixed-use development in proximity to transit hubs in order to reduce VMT and thereby reduce GHG emissions from personal vehicles. Development of the Project would reduce VMT by replacing an existing restaurant use that generates more traffic than the proposed memory care facility (refer to response to Checklist Question 17(a) [Transportation – LOS Impacts]). Additionally, as discussed in response to Checklist Questions 8(a) and (b) (Greenhouse Gas Emissions), the Project would result in a net decrease in the amount of GHG emissions generated at the Project Site when compared to the existing restaurant use. For these reasons, the Project would be consistent with the 2016-2040 RTP/SCS.

**South Coast Air Quality Management District**

**Air Quality Management Plan (AQMP)**

Refer to response to Checklist Question 3(a) (Air Quality – AQMP Consistency) for a discussion of the Project’s less-than-significant impacts related to consistency with the AQMP.

**Orange County Transportation Authority**

**Orange County Congestion Management Program**

The Orange County Congestion Management Plan (CMP) requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that
directly access the CMP Highway System (HS). Per the CMP guidelines, this number is based on the desire to analyze any impacts that will be 3.0 percent or more of the existing CMP highway system facilities’ capacity. As discussed in response to Checklist Question 17(a) (Transportation – LOS Impacts), the Project would result in a net decrease in daily traffic trips when compared to the traffic generated by the existing restaurant use. By itself, the Project would generate a total of 149 daily trips. As such, the Project would not generate enough daily trips to trigger the requirements of the CMP. Thus, the Project would be consistent with the CMP.

Consistency with Local Plans

City of Orange General Plan

State law requires that every city and county prepare and adopt a long-range comprehensive General Plan to guide future development and to identify the community’s environmental, social, and economic goals.” The City of Orange 2010 General Plan, adopted by the City Council on March 9, 2010, contains the following 10 Elements: Land Use, Circulation & Mobility, Growth Management, Natural Resources, Public Safety, Noise, Cultural Resources & Historic Preservation, Infrastructure, Urban Design, and Economic Development.

Table 22 includes a discussion of the Project’s consistency with the applicable goals and policies of the Land Use Element. As demonstrated, the Project would be consistent with the applicable goals and policies.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Project Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1.0:</strong> Meet the present and future needs of all residential and business sectors with a diverse and balance mix of land uses.</td>
<td><strong>Consistent.</strong> The Project includes the infill development of a memory care facility as an extension of an existing senior living facility that would provide housing and care for residents in need and employment opportunities. The Project would be served by existing roadway, utility, and public services.</td>
</tr>
<tr>
<td><strong>Policy 1.1:</strong> Maintain a land use structure that balances jobs and housing with available infrastructure and public and human services.</td>
<td><strong>Consistent.</strong> The Project includes the infill development of a memory care facility as an extension of an existing senior living facility that would provide housing and care for residents in need and employment opportunities. The Project would be served by existing roadway, utility, and public services.</td>
</tr>
<tr>
<td><strong>Policy 1.2:</strong> Balance economic gains from new development while preserving the character and densities of residential neighborhoods.</td>
<td><strong>Consistent.</strong> The Project would not encroach on the character of established residential neighborhoods. The Project Site is located in an urban portion of the City, surrounded by mix of commercial, institutional, and residential uses. The proposed memory care facility would be an extension of the existing senior living facility</td>
</tr>
</tbody>
</table>

“California Government Code Section 65300.
Table 22
Project Consistency with Applicable Policies of the Land Use Element of the City of Orange General Plan

<table>
<thead>
<tr>
<th>Objective</th>
<th>Project Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>located to the south. The proposed building would be two stories and 32 feet in height, consistent with heights of existing buildings adjacent to and near the Project Site. Additionally, the Project would be subject to the City’s Design Review process to ensure consistency with applicable design standards.</td>
<td></td>
</tr>
<tr>
<td><strong>Policy 1.3:</strong> Provide a range of housing densities and types to meet the diverse needs and lifestyles of residents.</td>
<td><strong>Consistent.</strong> The Project includes development of a memory care facility to serve residents in need.</td>
</tr>
<tr>
<td><strong>Policy 1.4:</strong> Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development.</td>
<td><strong>Consistent.</strong> The Project Site is located in an urban portion of the City, surrounded by mix of commercial, institutional, and residential uses. The proposed memory care facility would be an extension of the existing senior living facility located to the south. The proposed building would be two stories and 32 feet in height, consistent with heights of existing buildings adjacent to and near the Project Site. Additionally, the Project would be subject to the City’s Design Review process to ensure consistency with applicable design standards.</td>
</tr>
<tr>
<td><strong>Policy 1.6:</strong> Minimize effects of new development on the privacy and character of surrounding neighborhoods.</td>
<td><strong>Consistent.</strong> There are no residential uses adjacent to the Project Site. The Project includes infill development of the Project Site with a memory care facility that is an extension of the senior living facility to the south of the site. A church/institutional use is located to the north of the Project Site. The site is bound by a playfield to the west and S. Glassell Street to the east. The Project would not impose on the privacy or character of the surrounding neighborhood.</td>
</tr>
<tr>
<td><strong>Policy 1.7:</strong> Provide a range of open space and park amenities to meet the diverse needs of current and new residents.</td>
<td><strong>Consistent.</strong> The Project would include onsite amenities to serve future memory care residents.</td>
</tr>
<tr>
<td><strong>Goal 2.0:</strong> Create successful, high quality mixed-use districts consisting of a mix of residential, commercial, office, civic, and common open space land uses, supported by alternative modes of transportation.</td>
<td><strong>Consistent.</strong> The Project includes an infill development of the Project Site with a new memory care facility, replacing a restaurant building that is no longer operational.</td>
</tr>
<tr>
<td><strong>Policy 2.1:</strong> Encourage development of mixed-use projects to revitalize older commercial areas throughout the City and industrial areas surrounding the historic Santa Fe Depot.</td>
<td><strong>Consistent.</strong> The Project includes development of a memory care facility that is an extension of the</td>
</tr>
</tbody>
</table>
Table 22  
Project Consistency with Applicable Policies of the  
Land Use Element of the City of Orange General Plan

<table>
<thead>
<tr>
<th>Objective</th>
<th>Project Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>necessary supporting public and community facilities.</td>
<td>existing senior living facility to the south of the Project Site.</td>
</tr>
<tr>
<td><strong>Policy 2.5:</strong> Minimize traffic and parking impacts of proposed mixed-use projects.</td>
<td><strong>Consistent.</strong> As described in response to Checklist Question 17(a) (Transportation – LOS Impacts), the Project would result in a net decrease in traffic trips when compared to the existing/previous restaurant use. The Project would provide adequate parking to serve the proposed use. The Project would not result in any significant impacts related to traffic and parking.</td>
</tr>
<tr>
<td><strong>Policy 2.7:</strong> Ensure that the architecture, landscape design, and site planning of mixed use projects are of the highest quality, and that they emphasize a pedestrian orientation and safe, convenient access between uses.</td>
<td><strong>Consistent.</strong> The Project would be designed in an architectural style reflecting the eclectic mix of the area, using high quality materials. The Project would be subject to the City’s Design Review process to ensure that the Project meets applicable design standards. The Project would provide appropriate pedestrian access that meets safety standards for future memory care residents.</td>
</tr>
<tr>
<td><strong>Policy 2.8:</strong> Ensure that adequate gathering areas or plazas are incorporated within mixed-use projects and areas to allow for social interaction and community activities.</td>
<td><strong>Consistent.</strong> The Project would provide activity areas, lounging areas, a beauty salon, a courtyard, and covered terrace for on-site social interaction and community activities.</td>
</tr>
</tbody>
</table>

*Source: City of Orange 2010 General Plan, Land Use Element.*

**Land Use Designation**

Within the General Plan, the Project Site is designated General Commercial. The Land Use Element provides the following description for the General Commercial designation:

*The General Commercial designation provides for a wide range of retail and service commercial uses and professional offices. This designation is found along many of the City’s most highly-traveled roadway corridors, including Katella Avenue, Chapman Avenue, and Tustin Street. Regional shopping centers, mid- and high-rise office projects, corridor shopping districts, and neighborhood corner stores are all permitted uses.*

The proposed memory care facility is allowed under the General Commercial designation. Therefore, the Project is consistent with the land use designation for the Project Site.
Zoning

The existing zoning for the Project Site is C-1 (Limited Business). The proposed memory care facility is a use that is allowed under the existing zoning with a CUP, which is requested by the Project Applicant. The Project would meet all other zoning standards for the Project Site, such as height, setbacks, floor area ratio (FAR), parking, landscaping, etc. Therefore, the Project is consistent with the existing zoning for the Project Site.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. The degree to which the cumulative projects are considered consistent with applicable plans, policies, and regulations and could result in environmental impacts is considered by the City on a project-by-project basis. The applicants of each of cumulative project would be required comply with existing standards and regulations associated with sites on with the cumulative project is being proposed and/or request relief from compliance through some sort of ministerial or discretionary approval by the City. As discussed above, the Project includes development of a memory care facility, which is a use that is allowed under the existing land use designation for the Project Site and under the existing zoning pursuant to a CUP. The Project would be consistent with applicable plans, policies, and regulations associated with development of the Project Site, and no significant environmental impacts would occur. Therefore, cumulative impacts related to land use and planning would be less than significant.
12. **MINERAL RESOURCES. Would the project:**

<table>
<thead>
<tr>
<th>Impact Analysis</th>
<th>Less Than Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>(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?</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

**Impact Analysis**

(a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

Mineral resource deposits in Orange are primarily limited to the sand and gravel resources contained in and along the Santa Ana River and Santiago Creek. Sand and gravel resources are referred to collectively as “aggregate,” which is used for cement concrete. However, the Project Site is not within or near any area of known mineral resources. Thus, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(b) **Would the project 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?**

The City’s General Plan Land Use Resource Area designation provides for the continued use of areas for mining and agriculture. Passive and active recreational uses are also permitted in areas with this designation. Resource Areas also serve as a holding zone for areas that are currently used for mining and agriculture, but may not have these uses in the future. The Project Site is designated as Commercial within the General Plan. The Project is not located within a Resource Area or Open Space area. Thus, the Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local

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general plan, specific plan, or other land use plan. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

**Cumulative Impacts**

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. None of the sites of the cumulative projects is designated for mineral resources. As discussed above, the Project would not result in any impacts related to mineral resources. Therefore, no cumulative impacts related to mineral resources would occur.
13. **NOISE. Would the project:**

| (a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | Less Than Significant Impact |
| (b) Generation of excessive groundborne vibration or groundborne noise levels? | Less Than Significant Impact |
| (c) For a project located within the vicinity of a private airstrip or an airport land use plan, where such a plan has not been adopted, within two 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? | No Impact |

**Impact Analysis**

This section is based primarily on the following (refer to Appendix H):

- *Noise Modeling Results, NT Environmental Consulting, July 2019.*

**Environmental Setting**

*Fundamentals of Sound and Environmental Noise*

Sound can be described in terms of its loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel, abbreviated dB. Because the human ear is not equally sensitive to sound at all frequencies, the A-weighted scale (dBA) is used to reflect the normal hearing sensitivity range of the human ear. Table 23 provides examples of A-weighted noise levels from common sources. Although the terms “sound” and “noise” are often used synonymously, noise is commonly defined as sound that is either loud, unpleasant, unexpected, or undesired. Because decibels are logarithmic units, they cannot be simply added or subtracted. For example, two cars each producing 60 dBA of noise would not produce a combined 120 dBA.

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*California Department of Transportation (Caltrans), Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.*
### Table 23
A-Weighted Decibel Scale

<table>
<thead>
<tr>
<th>Common Noise Sources</th>
<th>Sound Level, dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near Jet Engine</td>
<td>130</td>
</tr>
<tr>
<td>Rock and Roll Band</td>
<td>110</td>
</tr>
<tr>
<td>Jet Flyover at 1,000 feet</td>
<td>100</td>
</tr>
<tr>
<td>Power Motor</td>
<td>90</td>
</tr>
<tr>
<td>Food Blender</td>
<td>80</td>
</tr>
<tr>
<td>Living Room Music</td>
<td>70</td>
</tr>
<tr>
<td>Human Voice at 3 feet</td>
<td>60</td>
</tr>
<tr>
<td>Residential Air Conditioner at 50 feet</td>
<td>50</td>
</tr>
<tr>
<td>Bird Calls</td>
<td>40</td>
</tr>
<tr>
<td>Quiet Living Room</td>
<td>30</td>
</tr>
<tr>
<td>Average Whisper</td>
<td>20</td>
</tr>
<tr>
<td>Rustling Leaves</td>
<td>10</td>
</tr>
</tbody>
</table>

These noise levels are approximations intended for general reference and informational use. They do not meet the standard required for detailed noise analysis but are provided for the reader to gain a rudimentary concept of various noise levels.

*Source: Cowan, James P., *Handbook of Environmental Acoustics*, 1993*

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**Noise Definitions**

This noise analysis discusses sound levels in terms of equivalent noise level ($L_{eq}$), maximum noise level ($L_{max}$), minimum noise level ($L_{min}$), and Community Noise Equivalent Level (CNEL). Statistical descriptors ($\bar{L}$) are also discussed.

#### Equivalent Noise Level ($L_{eq}$)

$L_{eq}$ represents the equivalent steady-state noise level for a stated period of time that would contain the same acoustic energy as the fluctuating, time-varying noise level of that same period. For example, the $L_{eq}$ for one hour is the energy average noise level for that hour. $L_{eq}$ can be thought of as a continuous noise level for a certain period that is equivalent in acoustic energy content to a fluctuating noise level of that same period. In this report $L_{eq}$ is expressed in units of dBA.

#### Maximum Noise Level ($L_{max}$)

$L_{max}$ represents the highest instantaneous noise level of a specified time period.

#### Minimum Noise Level ($L_{min}$)

$L_{min}$ represents the lowest instantaneous noise level of a specified time period.
Community Noise Equivalent Level (CNEL)

CNEL is a weighted noise measurement scale of average sound level during a 24-hour period. Due to increased noise sensitivities during evening and night hours, human reaction to sound between 7:00 P.M. and 10:00 P.M. is as if it were actually 5 dBA higher than had it occurred between 7:00 A.M. and 7:00 P.M. From 10:00 P.M. to 7:00 A.M., humans perceive sound as if it were 10 dBA higher. To account for these sensitivities, CNEL penalizes evening noise levels between 7:00 P.M. and 10:00 P.M. by an additional 5 dBA and nighttime noise levels between 10:00 P.M. and 7:00 A.M. by an additional 10 dBA. Because of this, 24-hour CNEL figures are always higher than their corresponding 24-hour $L_{eq}$.

Statistical Descriptor ($L_x$)

$L_x$ is used to represent the noise level exceeded $X$ percent of a specified time period. For example, $L_{90}$ represents the noise level that is exceeded 90 percent of a specified time period. $L_{90}$ is commonly used to represent ambient or background steady-state noise levels.

Effects of Environmental Noise

The degree to which noise can impact an environment ranges from levels that interfere with speech and sleep to levels that can cause adverse health effects. Most human response to noise is subjective. Factors that influence individual responses may include the intensity, frequency, and pattern of noise; the amount of background or existing noise present; and the nature of work or human activity that is exposed to intruding noise.

According to the National Institute of Health (NIH), extended or repeated exposure to sounds at or above 85 dB can cause hearing loss. Sounds of 75 dBA or less, even after continuous and repeated exposure, are unlikely to cause hearing loss. The World Health Organization (WHO) reports that adults should not be exposed to sudden “impulse” noise events of 140 dB or greater. For children, this limit is 120 dB.

Exposure to elevated nighttime noise levels can disrupt sleep, leading to increased levels of fatigue and decreased work or school performance. For the preservation of healthy sleeping environments, the WHO recommends that continuous interior noise levels should not exceed 30 dBA $L_{eq}$ and that individual noise events of 45 dBA or higher be limited.

References


"Ibid."
Some epidemiological studies have shown a weak association between long-term exposure to noise levels of 65 to 70 dBA $L_{eq}$ or greater and cardiovascular effects, including ischaemic heart disease and hypertension. However, at this time, the relationship is largely inconclusive.

It is generally accepted that people with normal hearing sensitivity can barely perceive a 3 dBA change in noise levels, though if changes occur to the character of a sound (i.e., changes to the frequency content), then changes less than 3 dBA may be more noticeable. Changes of 5 dBA may be readily perceptible, and changes of 10 dBA are perceived as a doubling in loudness. However, few people are highly annoyed by daytime noise levels below 55 dBA.

**Noise Attenuation**

Generally speaking, noise levels decrease, or “attenuate,” as distance from noise sources to receivers increases. For each doubling of distance, noise from stationary or small, localized sources, commonly referred to as “point sources,” may attenuate at the rate of 6 dBA for each doubling of distance. This attenuation is referred to as the inverse square law. For example, if a point source emits a noise level of 80 dBA at a reference distance of 50 feet its noise level would be approximately 74 dBA at a distance of 100 feet, 68 dBA at a distance of 200 feet, etc. Noise emitted by “line” sources such as highways attenuates at the rate of 3 dBA for each doubling of distance.

Factors such as ground absorption and atmospheric effects may also affect the propagation of noise. In particular, ground attenuation by non-reflective surfaces such as soft dirt or grass may contribute to increased attenuation rates of up to an additional 8-10 dBA per doubling of distance.

Noise is most audible when traveling by direct line of sight, an unobstructed visual path between a noise source and a receiver. Barriers that break the line of sight between noise sources and receivers, such as walls and buildings, can greatly reduce source noise levels by allowing noise to reach receivers by diffraction only. Barriers can reduce source noise levels by up to 20 dBA, though it is generally infeasible for temporary barriers to reduce source noise levels by more than 15 dBA. In cases where the noise path

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44 Ibid.


47 Ibid.

48 Ibid.
from source to receiver is direct but grazes the top of a barrier, noise attenuation of up to 5 dBA may still occur.”

**Fundamentals of Vibration**

Vibration is an oscillatory motion that can be described in terms of displacement, velocity, and acceleration. Unlike noise, vibration is not a common environmental issue, as it is unusual for vibration from vehicle sources to be perceptible. Common sources of vibration may include trains, construction activities, and certain industrial operations.

**Vibration Definitions**

This analysis discusses vibration in terms of Peak Particle Velocity (PPV).

**Peak Particle Velocity (PPV)**

PPV is commonly used to describe and quantify vibration impacts to buildings and other structures. PPV levels represent the maximum instantaneous peak of a vibration signal and are generally measured in inches per second (in/sec).

**Effects of Vibration**

High levels of vibration may cause damage to buildings or even physical personal injury. However, vibration levels rarely affect human health outside the personal operation of certain construction equipment or industrial tools. Instead, most people consider environmental vibration to be an annoyance that may affect concentration or disturb sleep. Background vibration in residential areas is usually not perceptible, and perceptible indoor vibrations are generally caused by sources within buildings themselves, such as slamming doors or heavy footsteps. Vibration from traffic on smooth roadways is rarely perceptible, even from larger vehicles such as buses or trucks. The threshold of human perception of vibration is approximately 0.01-0.02 in/sec PPV.

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“**Ibid.**


“ **Ibid.**


“ **Ibid.**
Regulatory Framework

City of Orange

General Plan

The City of Orange General Plan contains a Noise Element providing guidance for the control of noise to protect residents, workers, and visitors. Its stated goal “is to identify problems and noise sources threatening community safety and comfort and to establish policies and programs that will limit the community’s exposure to excessive noise levels.” To this end, the “policies, plans, and programs outlined within the Noise Element are designed to minimize the effects of human-caused noise in the community, and to improve residents’ quality of life by regulating and reducing noise…” Additionally, “The Element provides direction regarding best practices and strategies to protect City residents and businesses from severe noise levels.” The City’s General Plan Appendix contains additional implementation measures based on the Noise Element’s goals and policies. Though the following goals, policies, and implementation programs would not directly regulate the Project’s operational noise impacts, as Municipal Code standards would, adherence to these goals, policies, and implementation programs would ensure the Project’s consistency with the City’s General Plan. Some goals, policies, and implementation programs have been omitted for relevance.

The following goals and policies are taken from the City’s General Plan Noise Element:

Goal 1.0: Promote a pattern of land uses compatible with current and future noise levels.

Policy 1.1: Consider potential excessive noise levels when making land use planning decisions.

Policy 1.2: Encourage new development projects to provide sufficient spatial buffers to separate excessive noise generating land uses and noise-sensitive land uses.

Policy 1.3: Incorporate design features into residential and mixed-use projects that can be used to shield residents from excessive noise.

Policy 1.4: Ensure that acceptable noise levels are maintained near noise-sensitive areas.

Policy 1.5: Reduce impacts of high-noise activity centers located near residential areas.

Policy 1.6: Require an acoustical study for proposed developments in areas where the existing and projected noise level exceeds or would exceed the maximum allowable levels.

“Noise Element of the City of Orange General Plan, updated December 2015.
identified on Table N-3. The acoustical study shall be performed in accordance with the requirements set forth within this Noise Element.

**Goal 2.0:** Minimize vehicular traffic noise in residential areas and near noise-sensitive land uses.

**Policy 2.1:** Encourage noise-compatible land uses along existing and future roadways, highways, and freeways.

**Policy 2.2:** Encourage coordinated site planning and traffic control measures that minimize traffic noise in noise-sensitive land use areas.

**Policy 2.3:** Encourage the use of alternative transportation modes such as walking, bicycling, mass transit, and alternative fuel vehicles to minimize traffic noise.

**Policy 2.5:** Work toward understanding and reducing traffic noise in residential neighborhoods with a focus on analyzing the effects of traffic noise exposure throughout the City.

**Goal 7.0:** Minimize construction, maintenance vehicle, and nuisance noise in residential areas and near noise-sensitive land uses.

**Policy 7.2:** Require developers and contractors to employ noise minimizing techniques during construction and maintenance operations.

**Policy 7.3:** Limit the hours of construction and maintenance operations located adjacent to noise-sensitive land uses.

Table 24, based on Table N-3 of the Noise Element, outlines the City’s noise standards for various land uses.

The Noise Element also contains the following CEQA-specific guidance for the analysis of project noise impacts:

*For City analysis of noise impacts and determining appropriate mitigation under [CEQA], in addition to the maximum allowable noise level standards outlined on Tables N-3 and N-4, an increase in ambient noise levels is assumed to be a significant noise impact if a project causes ambient noise levels to exceed the following:*

- Where the existing ambient noise level is less than 65 dBA, a project related permanent increase in ambient noise levels of 5 dBA CNEL or greater.

- Where the existing ambient noise level is greater than 65 dBA, a project related permanent increase in ambient noise levels of 3 dBA CNEL or greater.
Table N-3 of the Noise Element has been reproduced on Table 24. Table N-4 of the Noise Element is reproduced on Table 25.

The following implementation programs are taken from the City’s General Plan appendix titled “Implementation”:

**Program III-18: Noise Reduction in New Construction**

Require construction contractors to implement the following measures during construction activities through contract provisions and/or conditions of approval as appropriate:

- Construction equipment shall be properly maintained per manufacturers’ specifications and fitted with the best available noise suppression devices (i.e., mufflers, silencers, wraps, etc).
- Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on power equipment.
- Construction operations and related activities associated with the proposed project shall comply with the operational hours outlined in the City of Orange Municipal Code Noise Ordinance, or mitigate noise at sensitive land uses to below Orange Municipal Code standards.
- Construction equipment should not be idled for extended periods of time in the vicinity of noise sensitive receptors.
- Located fixed and/or stationary equipment as far as possible from noise sensitive receptors (e.g., generators, compressors, rock crushers, cement mixers). Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on powered construction equipment.
- Where feasible, temporary barriers shall be placed as close to the noise source or as close to the receptor as possible and break the line of sight between the source and receptor where modeled levels exceed applicable standards. Acoustical barriers shall be constructed [of] material having a minimum surface weight of 2 pounds per square foot or greater, and a demonstrated Sound Transmission Class (STC) rating of 25 or greater as defined by American Society for Testing and Materials (ASTM) Test Method E90. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant.
### Table 24
City of Orange Noise Element Table N-3:
Maximum Allowable Noise Exposure – Transportation Sources

<table>
<thead>
<tr>
<th>Land Use</th>
<th>CNEL (dBA)</th>
<th>Interior&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Exterior&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estate Low Density Residential</strong></td>
<td>Single-family, duplex, and multiple-family</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td><strong>Low Density Residential</strong></td>
<td>Mobile home park</td>
<td>N/A</td>
<td>65</td>
</tr>
<tr>
<td><strong>Low Medium Density Residential</strong></td>
<td>Mobile home park</td>
<td>N/A</td>
<td>65</td>
</tr>
<tr>
<td><strong>Medium Density Residential Neighborhood</strong></td>
<td>Single-family</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td><strong>Mixed-use</strong></td>
<td>Mobile home park</td>
<td>N/A</td>
<td>65</td>
</tr>
<tr>
<td><strong>Neighborhood Office Professional</strong></td>
<td>Multiple-family, mixed-use</td>
<td>45</td>
<td>65&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Old Towne Mixed-use</strong></td>
<td>Transient lodging – motels, hotels</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td><strong>General Commercial</strong></td>
<td>Sports arenas, outdoor spectator sports</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Yorba Commercial Overlay</strong></td>
<td>Auditoriums, concert halls, amphitheaters</td>
<td>45</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Urban Mixed-use</strong></td>
<td>Office buildings, business, commercial and professional</td>
<td>50</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Light Industrial</strong></td>
<td>Manufacturing, utilities, agriculture</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Industrial</strong></td>
<td>Schools, nursing homes, day care facilities, hospitals, convalescent facilities, dormitories</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td><strong>Public Facilities and Institutions</strong></td>
<td>Government Facilities – offices, fire stations, community buildings</td>
<td>45</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Recreation Commercial</strong></td>
<td>Places of Worship, Churches</td>
<td>45</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Open Space</strong></td>
<td>Libraries</td>
<td>45</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Open Space – Park</strong></td>
<td>Utilities</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Open Space - Ridgeline</strong></td>
<td>Cemeteries</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Resource Area</strong></td>
<td>Playgrounds, neighborhood parks</td>
<td>N/A</td>
<td>70</td>
</tr>
<tr>
<td><strong>Open Space</strong></td>
<td>Golf courses, riding stables, water recreation, cemeteries</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<sup>a</sup> Interior habitable environment excludes bathrooms, closets and corridors.

<sup>b</sup> Exterior noise level standard to be applied at outdoor activity areas: such as private yards, private patio or balcony of a multi-family residences. Where the location of an outdoor activity area is unknown or not applicable, the noise standard shall be applied inside the property line of the receiving land use.

<sup>c</sup> Interior noise standards shall be satisfied with windows in the closed position. Mechanical ventilation shall be provided per Uniform Building Code (UBC) requirements.

<sup>d</sup> Within the Urban Mixed-Use, Neighborhood Mixed-Use, Old Towne Mixed-Use, and Medium Density Residential land use designations, exterior space standards apply only to common outdoor recreational areas.

<sup>e</sup> Within Urban Mixed-Use and Medium Density Residential land use designations, exterior noise levels on private patios or balconies located within 250 feet of freeways (I-5, SR-57, SR-55, SR-22, or SR-241) and Smart Streets and Principal Arterials identified in the Circulation & Mobility Element that exceed 70 dB should provide additional common open space.

N/A = Not Applicable to specified land use category or designation.

Source: City of Orange General Plan Noise Element, Table N-3.
Table 25
City of Orange Noise Element Table N-4:
Maximum Allowable Noise Exposure – Stationary Sources

<table>
<thead>
<tr>
<th>Noise Level Descriptor</th>
<th>Daytime (7 A.M. to 10 P.M.)</th>
<th>Nighttime (10 P.M. to 7 A.M.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly Equivalent Level ( (L_{eq}) ), dBA</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Maximum Level ( (L_{max}) ), dBA</td>
<td>70</td>
<td>65</td>
</tr>
</tbody>
</table>

Notes:
(1) These standards apply to new or existing noise sensitive land uses affected by new or existing non-transportation noise sources, as determined at the outdoor activity area of the receiving land use. However, these noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
(2) Each of the noise levels specified above should be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
(3) No standards have been included for interior noise levels. Standard construction practices that comply with the exterior noise levels identified in this table generally result in acceptable interior noise levels.
(4) The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels. If the existing ambient noise level exceeds the standards listed on Table N-4 [this table], then the noise level standards shall be increased at 3 dB increments to encompass the ambient environment. Noise level standards incorporating adjustments for existing ambient noise levels shall not exceed a maximum of 70 dB \( L_{eq} \).

Source: City of Orange General Plan Noise Element, Table N-4.

Program III-19: Groundborne Noise and Vibration

Implement the following measures to reduce the potential for human annoyance and architectural/structural damage resulting from elevated groundborne noise and vibration levels.

- Construction-Induced Vibration. The City shall implement or require implementation of the following measures through contract provisions and/or conditions of approval as appropriate:
  - Pile driving required within a 50-foot radius of historic structures shall utilize alternative installation methods where possible (e.g., pile cushioning, jetting, pre-drilling, cast-in-place systems, resonance-free vibratory pile drivers). Specifically, geo pier style cast-in-place systems or equivalent [systems] shall be used where feasible as an alternative to pile driving to reduce the number and amplitude of impacts required for seating the pile.
  - The pre-existing condition of all buildings within a 50-foot radius of historic buildings within the immediate vicinity of proposed construction activities shall be recorded in the form of a preconstruction survey. The preconstruction survey shall determine conditions that exist before construction begins for use in evaluating damage caused by construction activities. Fixtures and finishes within a 50-foot radius of construction activities susceptible to damage shall be documented...
(photographically and in writing) prior to construction. All damage will be repaired back to its pre-existing conditions.

- Vibration monitoring shall be conducted prior to and during pile driving operations occurring within 100 feet of the historic structures. Every attempt shall be made to limit construction-generated vibration levels in accordance with Caltrans recommendations during pile driving and impact activities in the vicinity of the historic structures.

- Provide protective covering or temporary shoring of on-site or adjacent historic features as necessary, in consultation with the Community Development Director or designee.

**Orange Municipal Code**

Chapter 8.24 of the Orange Municipal Code (OMC) contains noise control regulations that would have a limited application to the Project’s construction noise impacts, as the OMC exempts construction activities from the chapter’s provisions during the daytime hours when the Project’s construction activities would occur. Noises associated with the maintenance of the property (e.g. landscaping, cleaning, minor repair work, etc.) would similarly be exempt during daytime hours. Noises from transportation sources traveling on roadways would be subject to the City’s General Plan Noise Element.


The following activities shall be exempted from the provisions of this chapter:

E. Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities take place between the hours of 7:00 A.M. and 8:00 P.M. on any day except for Sunday or a Federal holiday, or between the hours of 9:00 A.M. and 8:00 P.M. on Sunday or a Federal holiday. Noise generated outside of the hours specified are subject to the noise standards identified on Table 8.24.040.

I. Noise sources associated with the maintenance of real property, provided such activities take place between the hours of 7:00 A.M. and 8:00 P.M. on any day except Sunday or a Federal holiday, or between the hours of 9:00 A.M. and 8:00 P.M. on Sunday or a Federal holiday. Operation of leaf blowers are regulated under OMC Chapter 8.26.

L. Mobile noise sources including but not limited to operational noise from trains, or automobiles or trucks traveling on roadways. Transportation noise as related to noise/land use compatibility is subject to the City’s General Plan Noise Element.

As referenced by Section 8.24.050(e) above, construction activities occurring outside of the stated hours would be regulated by the standards outlined on Table 8.24.040. Though the Project’s construction activities would not take place outside of exempted hours, Section 8.24.040 and Table 8.24.040 are reproduced below for reference.

A. The following noise standards for fixed noise sources, unless otherwise specifically indicated, shall apply to all residential property:

<table>
<thead>
<tr>
<th>Noise Level</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly Average ($L_a$)</td>
<td>7:00 A.M. – 10:00 P.M.</td>
</tr>
<tr>
<td>55 dBA</td>
<td>10:00 P.M. – 7:00 A.M.</td>
</tr>
<tr>
<td>50 dBA</td>
<td>7:00 A.M. – 10:00 P.M.</td>
</tr>
<tr>
<td>Maximum Level</td>
<td>10:00 P.M. – 7:00 A.M.</td>
</tr>
<tr>
<td>70 dBA</td>
<td>7:00 A.M. – 10:00 P.M.</td>
</tr>
<tr>
<td>65 dBA</td>
<td>10:00 P.M. – 7:00 A.M.</td>
</tr>
</tbody>
</table>

B. It is unlawful for any person at any location within the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other residential property to exceed the noise standards identified on Table 8.24.040. For multi-family residential or mixed use developments located within the City’s Urban Mixed Use, Neighborhood Mixed Use, Old Towne Mixed Use or Medium Density Residential General Plan land use districts, exterior noise standards shall apply to common recreation areas only and shall not apply to private exterior space (such as private yard, patio, or balcony).

C. In the event the ambient noise level exceeds the noise standards identified on Table 8.24.040 of this section, the “adjusted ambient noise level” shall be applied as the noise standard. In cases where the noise standard is adjusted due to a high ambient noise level, the noise standard shall not exceed the “adjusted ambient noise level,” or 70 dBA, whichever is less. In cases where the ambient noise level is already greater than 70 dBA, the ambient noise level shall be applied as the noise standard.

D. Each of the noise limits specified on Table 8.24.040 shall be reduced by 5 dBA for impact or simple tone noises, recurring impulsive noises, or for noises consisting of speech or music.

Though Section 8.24.050 would exempt the Project’s construction noise impacts from the OMC’s special provisions for schools, hospitals, and churches, these provisions are reproduced below for reference.


It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church, while the same is in use, to exceed the noise limits as specified in Section 8.24.040, or which noise level unreasonably interferes with the use of such institutions.
Section 8.24.100 of the OMC contains the following additional provision:

8.24.100 – Alternative Noise Prohibition.

Notwithstanding any other provisions of this chapter and in addition thereto, it is unlawful for any person to willfully make, continue, maintain, permit or cause to be made, continued, maintained, or permitted, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any residential property or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area. It shall be a prima facie violation of this section if any power tool, radio, receiving set, television, music amplifier, tape player, record player, compact disc player, musical instrument or similar device is played, used or permitted to be played or used between the hours of 10:00 P.M. and 7:00 A.M. when audible from a distance of one hundred (100) feet from the property line of the noise source or from a distance of one hundred fifty (150) feet from any non-stationary noise source…

Federal Transit Administration (FTA)

For the evaluation of construction-related vibration impacts, Federal Transit Administration (FTA) guidelines and recommendations are used given the absence of applicable federal, County, or City standards specific to temporary construction activities.

Though not regulatory in nature, the FTA has established vibration impact criteria for buildings and other structures, as building and structural damages are generally the foremost concern when evaluating the impacts of construction-related vibrations. Table 26 shows the FTA’s vibration guidelines for building and structural damage.

Table 26
FTA Construction Vibration Damage Criteria

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


Existing Conditions

Project Site

The Project Site currently contains a 5,959-square-foot former restaurant building and its related surface parking. As the restaurant is no longer operational (as of December 31, 2018), the site contains no active
uses and likely generates nominal, if any, environmental noise from on-site sources. However, this use would have generated various auto-related noises from its surface parking lot and related vehicle travel.

**Noise-Sensitive Receptors**

There are a number of noise-sensitive land uses in the vicinity of the Project. The City of Orange General Plan Noise Element defines “noise-sensitive land uses” as the following: residences, hospitals, convalescent and day care facilities, schools, and libraries. Local receptors include but are not limited to the following:

- **Holy Family Cathedral Residences:** This receptor consists of residential land uses for the church’s on-site religious faculty (e.g. convents, rectory, etc.). The residential building that is nearest to the Project Site, “Cathedral House,” is approximately 15 feet north of the Project at 566 S. Glassell Street.

- **Holy Family Cathedral:** This church receptor is located at 566 S. Glassell Street, approximately 100 feet north of the Project Site.

- **Holy Family Cathedral School:** This school receptor is located at 530 S. Glassell Street and consists of sensitive classroom buildings as well as various outdoor recreational/athletic facilities. The classroom building that is closest to the Project Site, approximately 200 feet to the north, would have little to no line of sight to the Project’s on-site construction activities due to the intervening Holy Family Cathedral and residential buildings. Classroom buildings with line of sight to the Project Site are located approximately 285 feet to the northwest and 300 feet to the east. With regard to the receptor’s outdoor recreational/athletic facilities, a grass field is located directly west of the Project. Site Other facilities such as asphalt play areas and outdoor play equipment are located at least 150 feet to the west.

- **Glassell Street Residences:** This receptor consists of residential land uses located along Glassell Street, approximately 95 feet east of the Project Site across Glassell Street.

- **Fashion Park Street Residences:** This receptor consists of residential land uses located along Fashion Park Street, approximately 350 feet west of the Project Site.

- **Park Plaza Assisted Living Facility:** This receptor includes the existing Park Plaza assisted living facilities that are located directly south of the Project Site.

A map identifying the location of these receptors is included as Figure 15. Other noise-sensitive receptors are located at a greater distance from the Project and would experience lesser impacts than those listed above.

**Existing Ambient Noise Conditions**

On March 14, 2019, noise measurements were obtained at three locations near the Project Site to determine the ambient noise conditions surrounding the Project. At all locations, the primary driver of ambient noise
levels was vehicular traffic. Ambient noise levels in the residential neighborhood along Fashion Park Street were lower, owing to reduced pass-through traffic through this neighborhood. Ambient noise levels along Glassell Street were elevated, consistent with this street’s higher traffic volumes. According to the City of Orange General Plan Noise Element, Glassell Street in the Project area experiences daily noise levels in excess of 65 dBA CNEL. For the purpose of establishing daytime noise conditions in the Project’s vicinity, ambient noise levels were specifically measured between 10:00 A.M. and 11:00 A.M., an off-peak traffic period that correlates with reduced environmental noise conditions. This is a conservative approach—construction noise impacts are more pronounced when compared against lower baseline noise levels. Measured noise levels are shown on Table 27.

<table>
<thead>
<tr>
<th>Noise Measurement Location</th>
<th>Sound Level (dBA $L_A$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fashion Park Street – Rosewood Avenue</td>
<td>58.9</td>
</tr>
<tr>
<td>2. Glassell Street – Near Holy Family Cathedral</td>
<td>73.1</td>
</tr>
<tr>
<td>3. Glassell Street – S of East River Avenue</td>
<td>66.8</td>
</tr>
</tbody>
</table>

*Source: NTEC, 2019.*

**Existing Groundborne Vibration Levels**

No sources of groundborne vibration were perceptible at any noise measurement location during the course of the field noise study. It is likely that perceptible groundborne vibrations could occasionally be generated by sources such as garbage trucks and other large vehicles (e.g., semi-trucks, buses, cement trucks, etc.). However, groundborne vibration levels surrounding the Project Site are by and large imperceptible, suggesting that groundborne vibration levels are generally below the 0.01-0.02 in/sec PPV threshold of perception for humans.
Figure 15
Noise Receptor & Monitoring Location Map

- Noise measurement locations
  - A. Holy Family Cathedral Residences
  - B. Holy Family Cathedral
  - C. Holy Family Cathedral Classrooms
  - D. Holy Family Cathedral - Outdoor
  - E. Glassell Street Residences
  - F. Park Plaza Assisted Living
  - G. Fashion Park Street Residences

Imagery via Google

Project Impacts

**Methodology**

The following section discusses the methods used to analyze the Project’s noise impacts:

**On-Site Construction Activities**

OMC Section 8.24.050 would exempt construction noises from the City’s noise ordinance provided that the noise-generating activities occur within the stated hours of exemption. As the Project’s construction activities would conform to these exempted hours, the Project would not result in a significant construction noise impact. Nevertheless, this analysis provides construction noise projections for nearby noise-sensitive receptors for informational purposes. Reference equipment noise levels were obtained from the Federal Highway Administration’s Roadway Construction Noise Model, version 1.1 (FHWA RCNM 1.1). The FHWA’s TNM 2.5 noise model was utilized to model the noise impact of a grader vehicle, whose work is mobile by nature. To represent a grader, a user defined vehicle was created which was assumed to generate a continuous noise level of 85 dBA, equal to the FHWA’s maximum noise level for this equipment. As a grader would not continuously emit its maximum instantaneous noise level while operating, the analysis portrays a conservative scenario.

**Off-Site Construction Activities**

As discussed above, the Project would limit its construction hours to those exempted by OMC Section 8.24.050 and therefore would not result in a significant construction noise impact. Nevertheless, off-site noise increases from haul trucks were estimated using the FHWA’s TNM 2.5 noise model and then compared with existing ambient noise conditions along nearby roadways to determine significance.

**On-Site Operational Noise Sources**

The Project’s potential to result in significant noise impacts from on-site operational noise sources was assessed by identifying likely on-site noise sources and considering the impacts they could produce given the nature of the source (i.e., loudness and/or whether noise would be generated during daytime or more-sensitive nighttime hours), distances to nearby noise-sensitive receptors, surrounding ambient noise levels, the presence of similar noise sources in the vicinity, and maximum allowable noise increases permitted by the City of Orange General Plan Noise Element.

**Off-Site Operational Noise Sources**

The Project would result in a net decrease of daily vehicle trips and therefore would not result in any noise increases due to its trip generation.

**Construction Vibration Sources**

The Project’s potential to generate damaging levels of groundborne vibration was analyzed by identifying construction vibration sources and estimating the maximum vibration levels that they could produce at
nearby buildings, all based on the principles and guidelines recommended by the FTA in its 2018 Transit Noise and Vibration Impact Assessment manual. Vibration levels were then compared with the manual’s suggested damage criteria for various building categories (refer to Table 26).

Operational Vibration Sources

Significant sources of operational vibration are generally limited to heavy equipment or industrial operations. The Project proposes to construct an assisted living memory care facility, and no such operations would take place.

Thresholds of Significance

The following thresholds are adopted to aid in the determination of the Project’s noise and vibration impacts:

Construction Noise Thresholds

Section 8.24.050(e) of the OMC exempts construction noise sources from the exterior noise standards of the City’s noise ordinance so long as construction activities are limited to between 7:00 A.M. and 8:00 P.M., Monday through Saturday, or between 9:00 A.M. and 8:00 P.M. on Sunday or a Federal holiday. Construction occurring outside of these time periods would be subject to the City’s exterior noise standards, which are discussed above. Thus, to result in a significant impact from construction noise sources, the Project would have to generate construction noises outside the exempted hours set forth by OMC Section 8.24.050(e) that are in exceedance of the exterior noise standards laid out by OMC Section 8.24.040. Alternatively, a significant impact from construction noise sources would result should the Project result in power tool or construction vehicle operations between the hours of 10:00 P.M. and 7:00 A.M. that are audible at a distance of 100 feet from the Project’s property line, pursuant to OMC Section 8.24.100.

The City of Orange General Plan Noise Element contains no quantitative construction noise thresholds.

Operational Noise Thresholds

The Project’s non-mobile operational noise sources (i.e. chiefly its point sources) would be held against the exterior noise standards set forth by OMC Section 8.24.040. Thus, the Project’s non-mobile operational noise sources would result in a significant impact should they generate exterior noise levels in excess of the standards set forth by OMC Section 8.24.040. Noise sources associated with construction, repair, remodeling, and grading would be exempt pursuant to OMC Section 8.24.050.

OMC Section 8.24.050(l) explicitly confers the regulation of mobile operational noise sources, namely Project-related traffic, to the City’s General Plan Noise Element, which contains CEQA-specific guidance for operational noise impacts. As discussed above, “…an increase in ambient noise levels is assumed to be a significant noise impact if a project causes ambient noise levels to exceed the following:
• Where the existing ambient noise level is less than 65 dBA, a project related permanent increase in ambient noise levels of 5 dBA CNEL or greater.

• Where the existing ambient noise level is greater than 65 dBA, a project related permanent increase in ambient noise levels of 3 dBA CNEL or greater.”

**Groundborne Vibration Threshold**

As discussed earlier, there are no federal, state, county, or City standards that would regulate the Project’s vibration impacts from temporary construction activities, nor are there quantitative thresholds. As a result, the criteria identified by the FTA in its 2018 Transit Noise and Vibration Impact Assessment manual (refer to Table 26) are used where applicable and relevant to assist in analyzing the Project’s groundborne vibration impacts as they pertain to Checklist Question 13(b) (Noise – Groundborne Vibration).

(a) **Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**On-Site Construction Activities**

The proposed construction would generate noise during the estimated 17 months of demolition, site preparation, excavation/grading, building construction, and architectural coatings activities. However, the Project would adhere to the exempted construction hours set forth by Orange Municipal Code (OMC) Section 8.24.050. As a result, the Project’s construction noises would not exceed or otherwise violate the OMC’s exterior noise standards, and the Project’s noise impact from its construction sources would be less than significant.

On-site construction activities would include the use of heavy equipment such as excavators, graders, loaders, bulldozers, and/or backhoes. Vehicles such as forklifts, skid steer loaders, crane trucks, drill rig trucks, concrete pumping trucks, and concrete mixing trucks would also be required. Smaller equipment such as generators and various powered hand tools would also be used throughout all construction phases. However, noise from demolition and grading activities are typically the foremost concern when evaluating a project’s construction noise impacts, as these activities often require the use of heavy-duty, diesel-powered earthmoving equipment. The Project’s grading phase would require an excavator and a grader. Of these vehicles, grader activities would likely have the greatest noise-generating potential given the Project’s lack of subgrade levels that would otherwise require extensive excavation activities.

The Project would follow standard, industry-wide “best practices” for construction in urban or otherwise noise-sensitive areas. Best practices utilized by the Project would include the following:

• Erecting temporary noise barriers around the Project’s perimeter prior to the commencement of major noise-generating construction activities.
- Erecting a temporary noise barrier “penalty box” for truck-mounted cranes, concrete pumping trucks, and concrete mixing trucks that may be permitted to temporarily operate from adjacent parking spaces or public right-of-way, outside the confines of the Project’s perimeter noise barriers.

- Warming-up or staging equipment away from noise-sensitive receptors.

- Placing generators, compressors, and other noisy equipment within acoustic enclosures or behind baffles or screens, especially when such equipment has line of sight to nearby noise-sensitive receptors and is not located within the confines of the Project’s perimeter noise barriers.

These best practices would be consistent with the “Noise Reduction in New Construction” measures proposed in the “Implementation” appendix of the City’s General Plan and discussed earlier in this section. Standard noise barrier materials, such as one-inch plywood, would have a minimum surface weight of 2 pounds per square foot or greater and an STC rating of 25 or greater.

Table 28 shows the projected noise impacts that would result from the Project’s grading activities. As shown, the Project’s grading activities would result in marginal noise increases at nearby noise-sensitive uses. Though grading activities may be intermittently audible due to the mobile nature of graders, which operate by driving across land back and forth to level earth, overall, resultant noise increases would not result in noticeably louder ambient noise conditions. As discussed earlier, noise increases of 3 dBA are only barely perceptible.

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Construction Noise Level (dBA L_{eq})</th>
<th>Existing Ambient Noise Level (dBA L_{eq})</th>
<th>New Noise Level (dBA L_{eq})</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holy Family Cathedral Residences</td>
<td>63.9</td>
<td>73.1</td>
<td>73.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Holy Family Cathedral</td>
<td>63.4</td>
<td>73.1</td>
<td>73.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Holy Family Cathedral School</td>
<td>57.3</td>
<td>58.9</td>
<td>61.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Holy Family Cathedral Outdoors</td>
<td>50.3</td>
<td>58.9</td>
<td>59.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Glassell Street Residences</td>
<td>63.7</td>
<td>66.8</td>
<td>68.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Fashion Park Street Residences</td>
<td>42.9</td>
<td>58.9</td>
<td>59.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Park Plaza Assisted Living Facility:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1- Floor:</td>
<td>59.4</td>
<td>73.1</td>
<td>73.3</td>
<td>0.2</td>
</tr>
<tr>
<td>2- Floor:</td>
<td>67.3</td>
<td></td>
<td>74.1</td>
<td>1.0</td>
</tr>
<tr>
<td>3- Floor:</td>
<td>69.0</td>
<td></td>
<td>74.5</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Source: NTEC, 2019.

Off-Site Construction Activities

As discussed earlier, the Project would adhere to the exempted construction hours set forth by Section 8.24.050. As a result, the Project’s construction noises would not exceed or otherwise violate the OMC’s
exterior noise standards, and the Project’s noise impact from its construction sources would be less than significant. Nevertheless, the following analysis discusses the noise levels that could occur as a result of the Project’s off-site construction activities.

Trucks and other construction-related vehicles would access the Project Site over the course of all construction phases. As the Project does not propose any subgrade levels, the Project’s excavation/grading-related soil export would be minimal. Other phases would also require few daily truck trips. Nevertheless, a conservative maximum of 10 truck trips per hour was modeled using the FHWA’s TNM 2.5 model to determine the effect that such truck activity could have along Glassell Street, which would be used to access the Project Site. According to this modeling, 10 truck trips per hour would be capable of generating noise levels of 60.3 dBA \( L_{eq} \) at land uses east of Glassell Street and 57.6 dBA \( L_{eq} \) at land uses west of Glassell Street. As field noise measurements indicate that off-peak hour daytime ambient noise levels are between 66 dBA \( L_{eq} \) and 73 dBA \( L_{eq} \) along Glassell Street, Project-related trucks would not be capable of increasing roadside ambient noise levels by a discernable degree.

**On-Site Operational Noise**

The Project’s potential on-site operational noise sources are identified and discussed below. As discussed, the Project’s on-site operational noise impacts would be less than significant.

**Mechanical Equipment**

The majority of the Project’s rooftop HVAC equipment would be shielded behind a parapet wall, and the rooftop HVAC equipment not shielded behind the parapet wall would instead be screened behind a metal louver. This shielding would ensure that the Project’s HVAC equipment does not have direct line of site to nearby receptors. Additionally, based on the distance from the proposed memory care facility to nearby receptors, ambient noise levels, and the relatively quiet operation of modern HVAC systems, the Project’s HVAC equipment would not increase off-site noise levels by a discernable degree. Additionally, the Project’s existing use contains rooftop-mounted HVAC units and other mechanical systems. The Project would replace these units with more modern, and thus, presumably quieter and more efficient systems.

A backup generator would be located near the northwest corner of the Project Site. The closest sensitive receptor to this portion of the Project Site is the Holy Family Cathedral Residences, located approximately 64 feet from the closest unit. Use of this generator would be limited to during power outages, though occasional testing of the generator could periodically generate noise during daytime hours. Such infrequent usage would not significantly degrade surrounding ambient noise conditions. The backup generator would be enclosed by a 9-foot-tall masonry wall that would substantially attenuate its noise levels.

Project mechanical equipment would not exceed the exterior noise standards outlined in Section 8.24.040 of the Municipal Code at off-site locations.
Auto-Related Activities

The previous restaurant use at the Project Site had a surface parking lot with 60 spaces. The Project would have 16 parking spaces, a net decrease of 44 parking spaces as compared to the site’s existing use. As such, the noise levels associated with parking activities would be lower under the proposed memory care use than under use of the Project Site as restaurant with surface parking. Furthermore, the Project would result in a net decrease of 320 vehicle trips per day. As a result, vehicle-related noises (e.g. engines starting, doors slamming, etc.) from the site’s surface parking would also decrease.

The types of calls for emergency medical services at a memory care facility are typically associated with residents who experience a fall or residents that need to be transferred to another care facility or hospital due to an illness or injury. These types of emergency response calls do not require the need for siren use. Thus, the Project would not result in an increase in siren noise in the Project Site area.

Overall, the Project’s on-site sources of operational noise would have no potential to increase surrounding noise levels by at least 3 dBA CNEL, the Noise Element’s minimum threshold for permanent operational noise impacts. A 3 dBA CNEL increase represents a doubling of noise over 24 hours – the Project would not be capable of causing such an increase.

Off-Site Operational Noise

As discussed above, the Project would result in a net decrease of 320 vehicle trips per day. During the A.M. peak hour, the Project would generate just two net new trips; during the P.M. peak hour, the Project would result in a decrease of 34 trips. The Project’s two net new A.M. peak hour trips would have no impact on surrounding roadway noise levels. The Project would have no potential to increase roadway noise levels by at least 3 dBA CNEL, the Noise Element’s minimum threshold for permanent operational noise impacts, and this impact would be less than significant.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

(b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Building Damage Vibration Impact

As discussed earlier, construction of the Project would require equipment such as excavators, loaders, dozers, and graders. Large, track-mounted grading vehicles can produce vibration levels of 0.089 inches per second PPV at a reference distance of 25 feet. Other construction vehicles and equipment would have

"Linscott, Law & Greenspan, Engineers. Traffic Impact Analysis – Park Plaza Memory Care Project, June 2019."
lesser impacts. The Project would not require impact or vibratory pile driving. Table 29 shows the Project’s estimated vibration impacts at the nearest off-site structures. As shown, the Project’s construction activities would not be capable of generating groundborne vibration levels in excess of FTA building damage criteria, and the Project’s impact would be less than significant.

### Table 29
Building Damage Vibration Levels at Off-Site Structures

<table>
<thead>
<tr>
<th>Off-Site Structures</th>
<th>Distance to Project Site (feet)</th>
<th>Condition</th>
<th>Significance Criteria (in/sec PPV)</th>
<th>Impact (in/sec PPV)</th>
<th>Significant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holy Family Cathedral Residences</td>
<td>15</td>
<td>I. Reinforced concrete, steel, or timber</td>
<td>0.5</td>
<td>0.191</td>
<td>No</td>
</tr>
<tr>
<td>Holy Family Cathedral</td>
<td>100</td>
<td>I. Reinforced concrete, steel, or timber</td>
<td>0.5</td>
<td>0.011</td>
<td>No</td>
</tr>
<tr>
<td>Glassell Street Residences</td>
<td>95</td>
<td>I. Reinforced concrete, steel, or timber</td>
<td>0.5</td>
<td>0.012</td>
<td>No</td>
</tr>
<tr>
<td>Park Plaza Assisted Living Facility</td>
<td>10</td>
<td>I. Reinforced concrete, steel, or timber</td>
<td>0.5</td>
<td>0.352</td>
<td>No</td>
</tr>
</tbody>
</table>


**Operational Vibrations Impact**

During Project operations, there would be no significant stationary sources of groundborne vibration, such as heavy equipment of industrial operations. The Project’s related vehicle travel would not be considered a significant source of vibration, as vehicle travel rarely generates perceptible groundborne vibration. As a result, the Project’s potential to generate excessive ground-borne vibration levels due to its operations would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(c) For a project located within the vicinity of a private airstrip or an airport land use plan, where such a plan has not been adopted, within two 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?
The Project Site is not located in the vicinity of a private airstrip or within an airport land use plan or within two miles of any public airport. Thus, the Project would not expose people residing or working in the project area to excessive noise levels associated with an airstrip or airport. Therefore, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

**Cumulative Impacts**

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. Only one of the cumulative projects (No. 2), located at 655 S. Glassell Street, across from the Project Site, is in close enough proximity to the Project Site to potentially create cumulative noise in concert with the Project. If both Cumulative Project No. 2 and the Project undergo construction at the same time, cumulative construction noise impacts could occur. However, as with the Project, Cumulative Project No. 2 would be required to implement best practices to minimize construction noise. Additionally, construction noise would be intermittent and temporary. Therefore, cumulative construction noise impacts would be less than significant.

Cumulative Project No. 2 includes development of seven single-family residential homes. Noise levels associated with this type of use does not typically result in noticeable permanent increases in ambient noise levels in urbanized areas, such is the context for the cumulative project. As discussed above, the Project would not result in a noticeable change in ambient noise levels onsite or offsite. Therefore, cumulative operational noise impacts would be less than significant.
14. POPULATION AND HOUSING.

Would the project:

(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

<table>
<thead>
<tr>
<th>Impact Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
</tr>
</tbody>
</table>

**Construction**

Construction job opportunities created as a result of the Project are not expected to result in any substantial population growth in the area. The work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the timeframe in which their specific skills are needed to complete a phase of the construction process. Additionally, the construction workers would likely be supplied from the region’s labor pool. Construction workers would not be likely to relocate their household as a consequence of working on the Project, and as such, significant housing or population impacts would not result from construction of the Project. Therefore, construction-related population growth impacts would be less than significant.

**Operation**

The existing land use designation for the Project Site is General Commercial. The Project does not include any change to this designation. As shown on Table 30, the City forecasts a gradual population growth with an estimated population of 153,000 in 2040.

<table>
<thead>
<tr>
<th>Table 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Orange Population Growth Forecasts, 2010-2035</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>138,500</td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td>153,000</td>
<td>+14,500 (9.5%)</td>
</tr>
</tbody>
</table>

Source: SCAG, 2016-2040 RTP/SCS, Jurisdictional Forecast 2040, Table 11.
The Project includes development of a memory care facility, which would include 36 beds to accommodate 36 residents. It is possible that these 36 residents could already live in the City and would not result in an increase in the number of residents in the City. However, it is also possible that the all 36 residents could relocate to the Project Site from areas outside of the City, resulting in a residential population increase of 36 people. However, this potential increase of 36 residents would fall within the projected increase of 14,500 people from 2012 to 2040. Additionally, the Project does not include the development of any new roads or utility infrastructure that would accommodate growth off-site. Thus, the Project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). Therefore, Project impacts related to population growth would be less than significant.

Significance Determination: Less Than Significant Impact

Mitigation Measures: None

(b) Would the project displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?

The Project Site is currently developed with a restaurant building and surface parking. No housing exists on the Project Site, and no people reside at the site. Thus, the Project would not displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere. Therefore, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. These cumulative projects would result in the development of 23 assisted living beds, 989 apartments/townhomes, 7 single-family residential homes, and a 907-square-foot coffee shop. These five cumulative projects are consistent with the General Plan and would not result in unplanned growth. As discussed above, the Project includes development of a memory care facility, which is a use that is allowed under the existing land use designation for the Project Site and under the existing zoning pursuant to a Conditional Use Permit. The Project would not result in unplanned population growth. Therefore, cumulative impacts related to unplanned population growth would be less than significant.

“Kelly Ribuffo, Associated Planner, City of Orange, October 28, 2019.”
15. PUBLIC SERVICES.

(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

<table>
<thead>
<tr>
<th>Public Services</th>
<th>Less Than Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Fire protection?</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Police protection?</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) Schools?</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv) Parks?</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v) Other public facilities?</td>
<td>☑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Impact Analysis

(a) i) Fire Protection

The City of Orange Fire Department (OFD) provides fire protection and emergency medical services to the Project Site. Fire station placement is driven by the time needed to respond to medical and fire emergencies throughout the city. There are eight fire stations in the City housing seven fire engines (also called "pumpers"), one fire truck (also called a "ladder truck"), one quintuple combination pumper (also referred to as a "quint") and three rescue ambulances. The nearest fire stations to the Project Site include the following:

- Station No. 1, located at 176 S. Grand Street, approximately 0.6 miles northeast of the Project Site. Protection area includes City’s Historical District and Chapman University, and stretches of the 55 and 22 Freeways.

- Station No. 5, located at 1345 W. Maple Avenue, approximately 1.5 miles northwest of the Project Site. Protection area includes Children’s Hospital Orange County, St. Joseph Hospital, and a nearby high-

"City of Orange Fire Department: https://www.cityoforange.org/225/Locate-a-Station."
rise district, and stretches of the 22 and 57 Freeways, a portion of the Santa Ana River, and industrial, commercial, and residential neighborhoods.«

- Station No. 6, located at 345 The City Drive South, approximately 2.9 miles northwest of the Project Site. Protection area includes UCI Medical Center, The Block at Orange, Theo Lacy Jail, Orange County Juvenile Justice Center, and a high-rise district, and stretches of the 22, 5 and 57 Freeways and a portion of the Santa Ana River.»

The City receives fire and emergency medical dispatch services from the Metro Cities Fire Authority Communications Center that serves six other cities in the County, including Anaheim, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, and Newport Beach. The City participates in the Standardized Emergency Management System (SEMS) for mutual aid and communication with other agencies during regional emergencies.«

For new buildings, safety is addressed through the plan review process. Site inspections are made of new construction and tenant improvement projects to confirm that projects are built per plan, and that there are not any special conditions on site that were not included and approved during the plan review process. Plans drawn in accordance with the current California Fire and Building Code requirements, as adopted by the City, are required in order to receive approval for conditions requiring a permit.»

The Project includes demolition and removal of the existing restaurant building on the Project Site and development of the site with a 36-bed memory care facility and surface parking. The Project would add 36 residents and associated staff to the Project Site that could increase the demand for fire protection services. However, adequacy of fire personnel and facilities is monitored on a consistent basis by the Fire Chief, and management staff and service needs are budgeted on an annual basis. A Fire Protection Facilities Fee Program been established that applies to new developments and would offset the demand created. According to the City’s findings, the fees to finance fire protection facilities required by new development is necessary in order to avoid adversely impacting existing fire protection facilities.

Fire protection impacts would be addressed by the incorporation of the Fire Department’s requirements to be included in the design and construction of the Project to ensure that fire prevention, suppression, and other life safety features are incorporated into site plan and building design, which would help to reduce any potential impacts to a less than significant level. The Project would also comply with current codes and

« Ibid.

» Ibid.


Orange Fire Department: https://www.cityoforange.org/203/Plan-Review.

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ordinances applicable at the time of building permits. As shown on Figure 4 (Fire Master Plan), the Project Applicant has already entered the Plan Review process with OFD and has incorporated fire protection standards into the design of the Project. Through compliance with existing OFD and other City requirements, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services. Therefore, Project impacts related to fire protection services would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(a) ii) Police Protection

The City of Orange Police Department (OPD) provides police protection services to the Project Site. The OPD responds to emergency situations and patrols neighborhoods and commercial areas within the City to promote a safe environment. The staff maintains official criminal records, investigates crime, and in an emergency, assesses situations and quickly dispatches appropriate emergency responses. The OPD also directs proactive crime prevention programs. The OPD headquarters and main police station is located at 1107 N. Batavia Street, approximately 2.5 miles north of the Project Site.

The City of Orange is divided into 97 police reporting districts. The Project is within police reporting district #12, with boundaries of La Veta Avenue to the north, Main Street to the west, Glassell Street to the east, and the City of Santa Ana border to the south. The average crime rate for the City in 2018 was approximately 20 crimes per 1,000 residents, including a violent crime rate of 1.5 crimes per 1,000 residents and a property crime rate of 198 crimes per 1,000 residents.

The Police Department does not use a standard officer-to-population or standard response time objective ratio to measure the adequacy of policing levels in the City of Orange. Instead, the Police Department analyzes demographics, service calls, population, crime trends and other changing factors to determine the level of police services needed.

Emergency response times on average, vary anywhere from four to seven minutes depending on other call priorities and location of police vehicles in relation to call location. The call response time accounts for the department’s policy requiring two officers be available before responding to an emergency call. Each new development has a potential impact on response times and increased demand on police services. Using design features and adding security measures helps reduce the number of times the OPD is required to

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respond. Such measures can include secured parking areas, elevators, inclusion of abundant windows and balconies providing additional “eyes on the street,” on-site building management, and lighting for safety and security.

The Project includes demolition and removal of the existing restaurant building on the Project Site and development of the site with a 36-bed memory care facility and surface parking. The Project would add 36 residents and associated staff to the Project Site that could increase the demand for police protection services. However, a Police Facility Development Fee has been established that applies to new developments and would offset the demand created. According to the City’s findings, the fees to finance police facilities required by new development is necessary in order to avoid adversely impacting existing police protection facilities.

The proposed facility would be staffed at all times. All entrance and exit points to the building would be monitored at all times and would be alarmed during sleeping hours. All visitors would be required to check in prior to visiting residents of the facility. Cameras and lighting would be used throughout the facility and parking lot to monitor all activity. As part of the plan check process, the OPD would review the Project plans to determine if any additional measures could be incorporated into the Project to further reduce the potential for crime to occur at the Project. Overall, the Project would have minimal need for OPD services. Thus, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services. Therefore, Project impacts related to police protection would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(a) iii) Schools

The Project includes development of a memory care facility. Residents of the facility would likely be older and would not likely have school-aged children. As such, the Project would not create a demand for school services. Additionally, the Project Applicant would be required to pay applicable developer fees to the Orange Unified School District (OUSD) to offset any indirect impacts to schools. Thus, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools. Therefore, Project impacts related to schools would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None
(a) iv) Parks

The Project includes development of a memory care facility, which would include activity areas, lounging areas, a beauty salon, a courtyard, and covered terrace for on-site recreation. Memory care residents would not leave the facility to visit parks and recreational facilities and as such, would not create a demand for off-site parks and recreational services. Thus, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks and recreational services. Thus, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(a) v) Other Public Facilities

The Project includes development of a memory care facility. Memory care residents would not leave the facility to visit libraries and as such, would not create a demand for library services. Thus, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for library services. Thus, no impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

Cumulative Impacts

As shown on Table 3 later in this MND, there are five cumulative projects within proximity to the Project Site. These cumulative projects would result in the development of 23 assisted living beds, 989 apartments/townhomes, 7 single-family residential homes, and a 907-square-foot coffee shop. The degree to which these cumulative projects would require public services would be considered by the City on a project-by-project basis. As with the Project Applicant, the applicants of the cumulative projects would be required to pay applicable public services fees to the City to help offset potential impacts to public services. As discussed above, the Project’s impacts related to public services would be less than significant. Therefore, cumulative impacts related to public services would be less than significant.
<table>
<thead>
<tr>
<th>(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?</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(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?</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Impact Analysis

(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?**

The Project includes development of a memory care facility, which would include activity areas, lounging areas, a beauty salon, a courtyard, and covered terrace for on-site recreating. Memory care residents would not leave the facility to visit parks and as such, would not create a demand for off-site parks and recreational services. Thus, the Project would not 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. Thus, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None

(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?**

The Project includes development of a memory care facility, which would include activity areas, lounging areas, a beauty salon, a courtyard, and covered terrace for on-site recreating. Memory care residents would not create a demand for off-site parks and recreational services. Thus, the Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Thus, no impacts related to this issue would occur as a result of the Project.

**Significance Determination:** No Impact

**Mitigation Measures:** None
Cumulative Impacts

As shown on Table 36 later in this MND, there are five cumulative projects within proximity to the Project Site. The degree to which the cumulative projects would require recreational facilities or would include the development of recreational facilities would be considered by the City on a project-by-project basis. As discussed above, the Project would not result in any impacts related to recreation. Therefore, cumulative impacts related to recreation would be less than significant.
17. **TRANSPORTATION. Would the project:**

<table>
<thead>
<tr>
<th>(a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?</th>
<th>Potentially Significant Impact</th>
<th>Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?</td>
<td>Potentially Significant Impact</td>
<td>Mitigation Incorporated</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>(c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>Potentially Significant Impact</td>
<td>Mitigation Incorporated</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>(d) Result in inadequate emergency access?</td>
<td>Potentially Significant Impact</td>
<td>Mitigation Incorporated</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
</tbody>
</table>

**Impact Analysis**

The section is based in part on the following (refer to Appendix I):


(a) **Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

**Study Area**

The four key study intersections selected for evaluation were determined based on coordination with City of Orange Traffic Engineering (OTE) staff and application of the “51 or more peak hour trip threshold” criteria outlined in the *City of Orange Traffic Impact Analysis Guidelines*, dated August 15, 2007. The City intersections listed below provide local access to the study area and define the extent of the boundaries for the traffic impact investigation.

**Key Study Intersections**

1. Glassell Street at La Veta Avenue

---

"*In accordance with CEQA Guidelines Section 15064.3(c), the City of Orange, as the lead agency, will implement the provisions of Section 15064.3 of the CEQA Guidelines, when the provisions go into effect statewide beginning July 1, 2020.*"
2. Glassell Street at East River Avenue

3. Glassell Street at Park Plaza Driveway 1

4. Glassell Street at Park Plaza Driveway 2

Figure 16 illustrates the general location of the Project and depicts the study locations and surrounding street system. The level of service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with the Project, area growth, and cumulative projects.

Existing Street System

The principal local network of streets serving the Project Site includes Glassell Street and La Veta Avenue. The discussion below provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Glassell Street is generally a four-lane, divided roadway oriented in the north-south direction and borders the Project Site to the east. Glassell Street transitions to a two-lane, undivided roadway north of La Veta Avenue. On-street parking is not permitted on the west side of Glassell Street south of East River Avenue and not permitted on the east side of Glassell Street north of East River Avenue. The posted speed limit on Glassell Street is 35 miles per hour (mph) south of La Veta Avenue and 30 mph north of La Veta Avenue. A traffic signal controls the study intersection of Glassell Street at La Veta Avenue. The study intersections of Glassell Street at East River Avenue, Park Plaza Driveway 1 and Park Plaza Driveway 2 are stop-controlled.

La Veta Avenue is generally a four-lane, divided roadway west of Glassell Street and a two-lane undivided roadway east of Orange Street oriented in the east-west direction. On-street parking is generally not permitted along this roadway west of La Veta Avenue and on-street parking is permitted east of Orange Street within the vicinity of the Project Site. The posted speed limit on La Veta Avenue is 35 mph west of Glassell Street and 30 mph east of Glassell Street.

Figure 17 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area study intersections.

Existing Traffic Volumes

Existing AM peak-hour and PM peak-hour traffic volumes for the four key study intersections evaluated in this section were conducted by AimTD LLC in May 2019. Figures 18 and 19 illustrate the existing AM and PM peak-hour traffic volumes at the four key study intersections.
Figure 16
Vicinity Map

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 17
Existing Roadway Conditions and Intersection Controls

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 18
Existing (2019) AM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 19
Existing (2019) PM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Existing Intersection Conditions

Existing AM and PM peak-hour operating conditions for the four key study intersections were evaluated using the Intersection Capacity Utilization (ICU) methodology for signalized intersections and the methodology outlined in Chapter 17 of the Highway Capacity Manual 2000 (HCM2000) for unsignalized intersections.

ICU Method of Analysis (Signalized Intersections)

In conformance with City requirements, existing AM and PM peak-hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City requirements, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each LOS calculation.

The ICU value translates to a LOS estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of LOS have been defined along with the corresponding ICU value range and are shown on Table 31.

Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and thus, a greater delay.

Two-Way Stop-Controlled Intersections

Two-way stop-controlled intersections compose a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown on Table 32.
Table 31
Level of Service Criteria for Signalized Intersections

<table>
<thead>
<tr>
<th>Level of Service (LOS)</th>
<th>Intersection Capacity Utilization Value (V/C)</th>
<th>Level of Service Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$\leq 0.60$</td>
<td>EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.</td>
</tr>
<tr>
<td>B</td>
<td>0.61 – 0.70</td>
<td>VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.</td>
</tr>
<tr>
<td>C</td>
<td>0.71 – 0.80</td>
<td>GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.</td>
</tr>
<tr>
<td>D</td>
<td>0.81 – 0.90</td>
<td>FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.</td>
</tr>
<tr>
<td>E</td>
<td>0.91 – 1.00</td>
<td>POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.</td>
</tr>
<tr>
<td>F</td>
<td>$&gt; 1.00$</td>
<td>FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.</td>
</tr>
</tbody>
</table>

Table 3
LOS Criteria for Unsignalized Intersections

<table>
<thead>
<tr>
<th>Level of Service (LOS)</th>
<th>Highway Capacity Manual Delay Value (sec/vph)</th>
<th>Level of Service Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 10.0</td>
<td>Little or no delay</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10.0 and ≤ 15.0</td>
<td>Short traffic delays</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 15.0 and ≤ 25.0</td>
<td>Average traffic delays</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 25.0 and ≤ 35.0</td>
<td>Long traffic delays</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 35.0 and ≤ 50.0</td>
<td>Very long traffic delays</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 50.0</td>
<td>Severe congestion</td>
</tr>
</tbody>
</table>


Level of Service Criteria

According to the City of Orange General Plan Circulation Element and stated in the City of Orange Traffic Impact Analysis Guidelines, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours on all intersections and LOS D is the minimum acceptable condition that should be maintained daily on all roadway segments.

Existing LOS

Table 33 summarizes the existing peak-hour service level calculations for the four key study intersections based on existing traffic volumes and current street geometry. All four key study intersections currently operate at acceptable LOS D or better during the AM and PM peak hours.
Table 33
Existing Peak Hour Levels of Service

<table>
<thead>
<tr>
<th>Key Intersection</th>
<th>Time Period</th>
<th>Jurisdiction</th>
<th>Minimum Acceptable LOS</th>
<th>Control Type</th>
<th>ICU</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Glassell Street at La Veta Avenue</td>
<td>AM</td>
<td>Orange</td>
<td>D</td>
<td>8Ø Traffic Signal</td>
<td>0.631</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td>0.617</td>
<td>B</td>
</tr>
<tr>
<td>2. Glassell Street at East River Avenue</td>
<td>AM</td>
<td>Orange</td>
<td>D</td>
<td>One-Way Stop</td>
<td>--</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td>--</td>
<td>C</td>
</tr>
<tr>
<td>3. Glassell Street at Park Plaza Driveway 1</td>
<td>AM</td>
<td>Orange</td>
<td>D</td>
<td>One-Way Stop</td>
<td>--</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td>--</td>
<td>A</td>
</tr>
<tr>
<td>4. Glassell Street at Park Plaza Driveway 2</td>
<td>AM</td>
<td>Orange</td>
<td>D</td>
<td>One-Way Stop</td>
<td>--</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td>--</td>
<td>B</td>
</tr>
</tbody>
</table>

Ø = phase
Source: Linscott, Law & Greenspan, 2019.

Impact Criteria and Thresholds

Impacts to local and regional transportation systems located in the City are considered significant if the following occurs:

Intersections:

- An unacceptable peak-hour LOS at any of the key intersections is projected. According to the City’s Circulation Element and stated in the City of Orange Traffic Impact Analysis Guidelines, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak hours on all intersections; and

- The project increases traffic demand at the study intersection by 1.0 percent of capacity (ICU increase ≥ 0.010), causing or worsening LOS E or LOS F (ICU > 0.900).

- An unsignalized intersection impact is considered to be significant if the project causes an intersection operating at LOS D or better to degrade to LOS E or LOS F, and the traffic signal warrant analysis determines that a traffic signal is justified.

Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 9th Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE).
Table 34 summarizes the trip generation rates used in forecasting the vehicular trips generated by the Project and the existing land use (i.e. existing vacant restaurant building) and also presents the Project’s forecast peak hour and daily traffic volumes. For this analysis, the trip generation potential of the existing land use was estimated using ITE Land Use 931: Quality Restaurant trip rates and the trip generation potential of the Project was estimated using ITE Land Use 254: Assisted Living trip rates.

As shown on Table 34, the Project would generate 320 fewer net daily trips (one half arriving and one half departing), with 2 greater net trips (0 inbound, 2 outbound) produced in the AM peak hour, and 34 fewer net trips (-24 inbound, -10 outbound) produced in the PM peak hour on a typical weekday compared to the existing use.

It should be noted that the existing 5,595-square-foot restaurant is currently non-operational. Thus, the Project’s gross trip generation of 149 daily trips (one half arriving and one half departing), with 6 trips (4 inbound, 2 outbound) produced in the AM peak hour, and 10 trips (5 inbound, 5 outbound) produced in the PM peak hour was utilized in this traffic impact analysis to provide a conservative assessment.

Table 34
Project Traffic Generation Forecast

<table>
<thead>
<tr>
<th>ITE Land Use Code/Project Description</th>
<th>Daily 2-Way</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Enter</td>
<td>Exit</td>
</tr>
<tr>
<td>IDE Land Use Code/Project Description:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ITE 254: Assisted Living (TE/Occupied Beds)</td>
<td>4.14</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td>• ITE 931: Quality Restaurant (TE/TSF)</td>
<td>83.84</td>
<td>90%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Generation Forecasts:

[A] Project

- Park Plaza Expansion – Memory Care Facility (36 Beds) | 149 | 4 | 2 | 6 | 5 | 5 | 10 |

[B] Existing Land Use

- Restaurant (5,595 SF) | 469 | 4 | 0 | 4 | 29 | 15 | 44 |

Total “Net Increase” Project Trip Generation:
Project - Existing Land Use [A]-[B] | -320 | 0 | 2 | 2 | -24 | -10 | -34 |

Notes:

TE/Occupied Beds = Trip End per Occupied Beds
TE/TSF = Trip End per Thousand Square Feet

Project Traffic Distribution and Assignment

Figure 20 illustrates the general, directional traffic distribution pattern for the Project. Project traffic volumes both entering and exiting the Project Site have been distributed and assigned to the adjacent street system based on the following considerations:
• Directional flows on the freeways in the immediate vicinity of the Project Site (i.e. I-5 Freeway and SR-22 Freeway);

• The Project Site's proximity to major traffic carriers (i.e. Glassell Street);

• Expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals; and

• Ingress/egress availability at the Project Site.

The anticipated AM and PM peak-hour Project traffic volumes associated with the Project are presented on Figures 21 and 22. The traffic volume assignments presented in the figures reflects the traffic distribution characteristics.

**Existing Plus Project Traffic Conditions**

The Existing plus Project traffic conditions have been generated based upon existing conditions and the estimated Project traffic. These forecast traffic conditions have been prepared pursuant to the California Environmental Quality Act (CEQA) guidelines, which require that the potential impacts of a Project be evaluated upon the circulation system as it currently exists. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to mitigate the direct traffic impacts of the Project, if any.

Figures 23 and 24 present projected AM and PM peak-hour traffic volumes at the four key study intersections with the addition of the trips generated by the Project to existing traffic volumes, respectively. It should be noted that an assumption was made to account for a portion of existing outbound volume from the southernmost driveway (i.e. Park Plaza Driveway 2) that would utilize the full-access northernmost driveway (i.e. Park Plaza Driveway 1) to go northbound on Glassell Street.

Review of column (2) of Table 35 indicates that traffic associated with the Project would not significantly impact any of the four key study intersections, when compared to the LOS standards and significant impact criteria specified previously.
Figure 21
AM Peak Hour Project - Generated Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
PM Peak Hour Project - Generated Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 23
Existing (2019) Plus Project AM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 24
Existing (2019) Plus Project PM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Table 35
Existing (Year 2019) Plus Project Peak Hour Intersection Capacity Analysis

<table>
<thead>
<tr>
<th>#</th>
<th>Key Intersection</th>
<th>Time Period</th>
<th>ICU</th>
<th>Delay (s/v)</th>
<th>LOS</th>
<th>Deficient?</th>
<th>ICU</th>
<th>Delay (s/v)</th>
<th>LOS</th>
<th>ICU or Delay Change (2)-(1)</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Glassell Street at AM</td>
<td>AM</td>
<td>0.631</td>
<td>--</td>
<td>B</td>
<td>No</td>
<td>0.632</td>
<td>--</td>
<td>B</td>
<td>0.001</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>La Veta Avenue</td>
<td>PM</td>
<td>0.617</td>
<td>--</td>
<td>B</td>
<td>No</td>
<td>0.618</td>
<td>--</td>
<td>B</td>
<td>0.001</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Glassell Street at AM</td>
<td>AM</td>
<td>--</td>
<td>13.7</td>
<td>B</td>
<td>No</td>
<td>--</td>
<td>13.7</td>
<td>B</td>
<td>0.0</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>East River Avenue PM</td>
<td>PM</td>
<td>--</td>
<td>15.2</td>
<td>C</td>
<td>No</td>
<td>--</td>
<td>15.3</td>
<td>C</td>
<td>0.1</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Glassell Street at AM</td>
<td>AM</td>
<td>--</td>
<td>0.0 [a]</td>
<td>A</td>
<td>No</td>
<td>--</td>
<td>19.2</td>
<td>C</td>
<td>19.2</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Park Plaza Driveway 1</td>
<td>PM</td>
<td>--</td>
<td>0.0 [a]</td>
<td>A</td>
<td>No</td>
<td>--</td>
<td>15.2</td>
<td>C</td>
<td>15.2</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Glassell Street at AM</td>
<td>AM</td>
<td>--</td>
<td>0.0 [b]</td>
<td>A</td>
<td>No</td>
<td>--</td>
<td>0.0 [b]</td>
<td>A</td>
<td>0.0</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Park Plaza Driveway 2</td>
<td>PM</td>
<td>--</td>
<td>12.1</td>
<td>B</td>
<td>No</td>
<td>--</td>
<td>12.1</td>
<td>B</td>
<td>0.0</td>
<td>No</td>
</tr>
</tbody>
</table>

s/v = seconds per vehicle (delay)

[a] The existing site of the proposed Project is currently vacant and there is no existing volume coming out of Driveway 1. Therefore, zero delay is reported for this intersection.

[b] There is no existing outbound volume coming out of Driveway 2 during the AM Peak Hour. Therefore, zero delay is reported for this intersection.
Future Traffic Conditions

Ambient Traffic Growth

Horizon year, background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at 1.0 percent per year. Applied to the Year 2019 existing traffic volumes, this factor results in a 2.0 percent growth in existing volumes to the near-term horizon year 2021.

Cumulative Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the Project, the status of other known development projects (cumulative projects) in the vicinity of the Project Site has been researched at the City and the City of Santa Ana. With this information, the potential impact of the Project can be evaluated within the context of the cumulative impact of all ongoing development.

Based on research identified in the Traffic Impact Analysis (refer to Appendix I), there are four cumulative projects in the City and one cumulative project in the City of Santa Ana within the vicinity of the Project Site that have either been built, but not yet fully occupied, or are being processed for approval. These five cumulative projects have been included as part of the cumulative background setting.

Table 36 provides a brief description for each of the five cumulative projects. The location of the cumulative projects is shown on Figure 25. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections. The cumulative projects are forecast to generate a total of 7,233 daily trips, with 549 trips during the AM peak hour and 649 trips during the PM peak hour.
Table 36
Cumulative Projects Description and Trip Generation Estimates

<table>
<thead>
<tr>
<th>Cumulative Project/Location</th>
<th>Land Use</th>
<th>Size</th>
</tr>
</thead>
</table>
| 1. Ronald McDonald House Expansion  
  383 and 389 South Batavia Street,  
  802 West Culver Avenue  
  (City of Orange) | Assisted Living                   | 23 Beds  |
| 2. Dang Residences  
  655 South Glassell Street  
  (City of Orange) | Single Family Detached Housing    | 7 DU     |
| 3. 999 Town and Country Apartments  
  999 Town and Country road  
  (City of Orange) | Apartments                         | 262 DU [b]|
| 4. Town and Country Apartments and Townhomes  
  702 West Town and Country Road  
  (City of Orange) | Apartments Townhomes               | 653 DU [c]  
  74 DU [c] |
| 5. Starbucks  
  2701 North Grand Avenue  
  (City of Santa Ana) | Coffee Donut Shop with Drive-Through Window | 0.907 TSF |

[a] Source: Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017), unless otherwise noted.

Year 2021 Without Project

The AM and PM peak-hour traffic volumes associated with the five cumulative projects are presented on Figures 26 and 27, respectively. Figures 28 and 29 present the AM and PM peak-hour cumulative traffic volumes (existing traffic + ambient growth traffic + cumulative project traffic) at the four key study intersections for the Year 2021, respectively. Table 37 summarizes the peak-hour LOS results at the 4 key study intersections for Year 2021 traffic conditions.

Year 2021 Plus Project

Figures 30 and 31 illustrate the Year 2021 forecast AM and PM peak-hour traffic volumes (respectively), with the inclusion of the trips generated by the Project. As shown on Table 37, the analysis of future (Year 2021) cumulative traffic conditions indicates that the addition of the Project would not significantly impact any of the four key study intersections, when compared to the LOS standards and significant impact criteria specified in this analysis. All four key study intersections currently operate and are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to Year 2021 cumulative traffic.
KEY

1. RONALD MCDONALD HOUSE EXPANSION
2. DANG RESIDENCES
3. 999 TOWN AND COUNTRY APARTMENTS
4. TOWN AND COUNTRY APARTMENTS AND TOWNHOMES
5. STARBUCKS

SOURCE: GOOGLE

# = CUMULATIVE PROJECT LOCATION
= PROJECT SITE

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 26
AM Peak Hour Cumulative Project Only Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
PM Peak Hour Cumulative Project Only Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 28
Year 2021 Cumulative Base AM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 29
Year 2021 Cumulative Base PM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
| #   | Key Intersection          | Time Period | (1) Existing (Year 2019) | (2) Year 2021 Cumulative Baseline | (3) Year 2021 plus Project | ICU or Delay Change (3)-(2) | Significant Impact?
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Glassell Street at AM</td>
<td>AM</td>
<td>0.631 [a]</td>
<td>--</td>
<td>--</td>
<td>B</td>
<td>0.001</td>
</tr>
<tr>
<td>2</td>
<td>Park Plaza Driveway 1 PM</td>
<td>AM</td>
<td>0.0 [a]</td>
<td>--</td>
<td>--</td>
<td>B</td>
<td>0.000</td>
</tr>
<tr>
<td>3</td>
<td>Glassell Street at AM</td>
<td>AM</td>
<td>0.0 [b]</td>
<td>--</td>
<td>--</td>
<td>B</td>
<td>0.0</td>
</tr>
<tr>
<td>4</td>
<td>Park Plaza Driveway 2 PM</td>
<td>AM</td>
<td>12.1</td>
<td>B</td>
<td>12.2</td>
<td>B</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*a/s = seconds per vehicle (delay)*

[a] The existing site of the proposed Project is currently vacant and there is no existing volume coming out of Driveway 1. Therefore, zero delay is reported for this intersection.

[b] There is no existing outbound volume coming out of Driveway 2 during the AM Peak Hour. Therefore, zero delay is reported for this intersection.
Figure 30
Year 2021 Cumulative Plus Project AM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Figure 31
Year 2021 Cumulative Plus Project PM Peak Hour Traffic Volumes

Source: Linscott Law & Greenspan Engineers, 2019.
Significance Determination: Less Than Significant Impact

Mitigation Measures: None

(b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

In accordance with CEQA Guidelines Section 15064.3(c), the City of Orange, as the lead agency, will implement the provisions of Section 15064.3 of the CEQA Guidelines, when the provisions go into effect statewide beginning July 1, 2020.

Significance Determination: NA

Mitigation Measures: None

(c) Would the project substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project Site is located in an urbanized area of the City and is served by existing roadway infrastructure. The Project includes development of a memory care facility as an extension of an existing senior care facility located adjacent to the Project Site to the south. The Project does not include the development of any new roadway infrastructure. The Project’s driveway and drive aisles would be designed and constructed to meet City standards. Thus, the Project would not substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Therefore, no significant impacts related to this issue would occur as a result of the Project.

Significance Determination: No Impact

Mitigation Measures: None

(d) Result in inadequate emergency access?

Glassell Street, located adjacent to the Project Site to the east, is the closest designated evacuation corridors within the City of Orange. The Project would not affect access to Glassell Street during construction, as all construction equipment, staging, and parking would occur on the Project Site, and would not affect emergency access to any off-site properties. The Project’s driveway and drive aisles would be designed and constructed to meet City standards, including Fire Code standards (refer to Figure 4). Thus, the Project would not result in inadequate emergency access. Therefore, no significant impacts related to this issue would occur as a result of the Project.

Orange General Plan, Figure PS-4, Generalized Evacuation Corridors: https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-Element-PDF

Page 194
Significance Determination: No Impact

Mitigation Measures: None

Cumulative Impacts

As discussed above and as shown on Table 37, cumulative traffic impacts would be less than significant.
18. 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, or 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:

<table>
<thead>
<tr>
<th>Potential Significant Impact</th>
<th>Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

(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.

Impact Analysis

(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)?

Refer to response to Checklist Question 5(a) (Cultural Resources – Historical Resources) and Checklist Question 5(b) (Cultural Resources – Archaeological Resources).

Significance Determination: Less Than Significant With Mitigation

Mitigation Measures: Refer to the mitigation measures listed in response to Checklist Question 5(a) (Cultural Resources – Historical Resources) and Checklist Question 5(b) (Cultural Resources – Archaeological Resources).

Significance Determination After Mitigation: Less Than Significant

(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?

Less Than Significant With Mitigation Incorporated. Approved by Governor Brown on September 25, 2014, Assembly Bill 52 (AB52) establishes a formal consultation process for California Native American...
Tribes to identify potential significant impacts to tribal cultural resources (TCRs), as defined in Public Resources Code Section 21074, as part of CEQA. Effective July 1, 2015, AB 52 applies to projects that file a Notice of Preparation of an ND or EIR on or after July 1, 2015. PRC Section 21084.2 now establishes that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment. To help determine whether a project may have such an effect, Public Resources Code Section 21080.3.1 requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project. As a result of AB 52, the following must take place: 1) prescribed notification and response timelines; 2) consultation on alternatives, resource identification, significance determinations, impact evaluation, and mitigation measures; and 3) documentation of all consultation efforts to support CEQA findings for the administrative record.

Under AB 52, if a lead agency determines that a project may cause a substantial adverse change to a TCR, the lead agency must consider measures to mitigate that impact. PRC Section 21074 provides a definition of a TCR. In brief, in order to be considered a TCR, a resource must be either: 1) listed, or determined to be eligible for listing, on the national, State, or local register of historic resources, or 2) a resource that the lead agency chooses, in its discretion supported by substantial evidence, to treat as a TCR. In the latter instance, the lead agency must determine that the resource meets the criteria for listing in the State register of historic resources or City Designated Cultural Resource. In applying those criteria, a lead agency shall consider the value of the resource to the tribe.

As specified in AB 52, lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted a written request to be notified. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the request for consultation.

Pursuant to AB 52, the Community Development Department notified Native American tribes as to the Project with a 30-day consultation period on [INSERT DATE]. The Gabrieliño Band of Mission Indians-Kizh Nation requested consultation with the City on November 22, 2019. The City concluded the consultation with the Gabrieliño Band of Mission Indians-Kizh Nation on [INSERT DATE]. It is possible that unknown TCRs could exist at the Project Site that could be encountered, given the relative sensitivity of the Project Site region. As such, the Project would be required to implement Mitigation Measures TCR-1 through TCR-6 to ensure appropriate treatment of potential unknown tribal cultural resources. Compliance with these mitigation measures would ensure that Project impacts related to tribal cultural resources would be less than significant.

**Significance Determination:** Less Than Significant With Mitigation Incorporated

**Mitigation Measures:**

**TCR-1:** Retain Tribal Monitor/Consultant. The Project Applicant shall retain and compensate a Tribal monitor/consultant who is both approved by the Gabrieliño Band of Mission...
Indians-Kizh Nation Tribal Government and is listed under the NAHC’s Tribal Contact list for the Project Site area. The Tribal monitor/consultant shall only be present on-site during the construction phases that involve ground disturbing activities. Ground-disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor/consultant shall complete daily monitoring logs that provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when Project grading and excavation activities are completed, or when the Tribal representatives and monitor/consultant have indicated that the site has a low potential for impacting TRCs.

TCR-2: Unanticipated Discovery of Tribal and Archaeological Resources. Upon discovery of any tribal or archaeological cultural resources, construction activities in the immediate vicinity of the find shall cease until the find can be assessed. All tribal and archaeological cultural resources unearthed as a result of construction activities shall be evaluated by the qualified archaeologist and Tribal monitor/consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. The Tribe monitor/consultant could request preservation in place or recovery for educational purposes. Work may continue on other parts of the Project during evaluation and if necessary, additional protective mitigation takes place (CEQA Guidelines Section15064.5 (f)). If a resource is determined to constitute a “historical resource” or “unique archaeological resource,” time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, shall be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources.

TCR-3: Public Resources Code Section 21083.2(b) (Unique Archaeological Resources). Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. All TCRs shall be returned to the Tribe. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to the Tribe or a local school or historical society in the area for educational purposes.

TCR-4: Unanticipated Discovery of Human Remains and Associated Funerary Objections. If human remains or funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 150-foot buffer of the find) shall cease, and the County Coroner shall be contacted. If the human remains are determined to be Native American in origin by the County Coroner, the Tribal monitor/consultant shall
immediately notify the NAHC as mandated by state law to establish the Most Likely Descendent (MLD).

**TCR-5: Kizh-Gabrieleño Procedures for Burial and Funerary Remains.** If the Gabrieleño Band of Mission Indians – Kizh Nation is designated the MLD, the Koos-nas-gna Burial Policy shall be implemented. In the event that burial and funerary remains are encountered, all prepared soil and cremation soils shall be treated in the same manner as bone fragments that remain intact.

Prior to the continuation of ground-disturbing activities, the Project Applicant shall arrange a designated site location within the footprint of the Project Site for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe monitor/consultant shall make every effort to recommend diverting the project and keeping the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials could be removed. The Tribe monitor/consultant shall work closely with a qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the Tribe monitor/consultant, documentation shall be taken that includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe monitor/consultant for data recovery purposes. Cremations shall either be removed in bulk or by means as necessary to ensure complete recovery of all material. If the discovery of human remains includes four or more burials, the location would be considered a cemetery, and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Gabrieleño Band of Mission Indians – Kizh Nation and the NAHC. No scientific study or the utilization of any invasive and/or destructive diagnostics on human remains shall be allowed.

Each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site, if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project Site but at a location agreed upon between the Gabrieleño Band of Mission Indians – Kizh Nation and the Project Applicant at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

**TCR-6: Professional Standards.** Archaeological and Native American monitoring and excavation during construction activities shall be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years
of experience as a principal investigator working with Native American archaeological sites in Southern California. The Tribal monitor/consultant shall ensure that all other personnel are appropriately trained and qualified.

**Significance Determination After Mitigation:** Less Than Significant

**Cumulative Impacts**

As shown on Table 36 previously in this MND, there are five cumulative projects within proximity to the Project Site. For any of these cumulative projects that are subject to CEQA, the City would be required to comply with AB 52 requirements for each cumulative project. The degree to which tribal cultural resources could exist at the sites of the cumulative projects and could be affected by development is considered by the City on a project-by-project basis. As discussed above, with implementation of Mitigation Measures TCR-1 through TCR-6, no significant impacts related to TRCs would occur as a result of the Project. Therefore, cumulative impacts related to TCRs would be less than significant.
### 19. UTILITIES AND SERVICE SYSTEMS.

**Would the project:**

<table>
<thead>
<tr>
<th>(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?</th>
<th>Potentially Significant Impact</th>
<th>Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| (b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, or 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? | ✔ |

### Impact Analysis

(a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

### Water Treatment

The City relies on a combination of imported water and local groundwater to meet its water needs. The City works together with three primary agencies, Metropolitan Water District (MWD), Municipal Water District of Orange County (MWDOC), and Orange County Water District (OCWD) to ensure a safe and reliable water supply that will continue to serve the community in periods of drought and shortage. The sources of imported water supplies include the Colorado River and the State Water Project (SWP) provided by MWD and delivered through MWDOC. The City’s main source of water supply is groundwater from the Lower Santa Ana River Groundwater Basin. The City’s water supply is supplemented by imported water and
surface water. It is projected that by 2040, the water supply mix will be approximately 70 percent groundwater, 26 percent imported water, and 4 percent surface water.\(^6\)

Groundwater is typically treated at the location of the groundwater pump and removes certain contaminants that are specific to the groundwater source. The MWD treats its water at a variety of water treatment plants throughout Southern California, with a combined treatment capacity of 2.3 billion gallons of water per day. The Serrano Water District operates its own water treatment plant.

As shown on Table 38, it is estimated that the Project would result in a net increase of approximate 1,556 gallons of water per day. Any portion of this amount of water that would come from groundwater would be treated at the pump and would not require new or expanded treatment facilities. Water imported by MWD would be treated by MWD treatment plants. With a combined treatment capacity of 2.3 billion gallons per day, MWD treatment plants would have sufficient existing capacity to treat the remainder (if not all) of the Project’s water demand. Thus, the Project would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, Project impacts related to water treatment would be less than significant.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Size</th>
<th>Wastewater Generation/ Water Consumption Rates $^{1,2}$</th>
<th>Total (gpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>165 seats $^3$</td>
<td>30 gpd/seat</td>
<td>4,950</td>
</tr>
<tr>
<td>Proposed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Care Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Units</td>
<td>36 beds</td>
<td>75 gpd/bed</td>
<td>2,700</td>
</tr>
<tr>
<td>Commons, Admin, Circulation, and Support</td>
<td>15,224 sf</td>
<td>0.25 gpd/sf</td>
<td>3,806</td>
</tr>
<tr>
<td><strong>Project Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>6,506</strong></td>
</tr>
<tr>
<td><strong>Less Existing</strong></td>
<td></td>
<td></td>
<td>-4,950</td>
</tr>
<tr>
<td><strong>Net Total</strong></td>
<td></td>
<td></td>
<td><strong>1,556</strong></td>
</tr>
</tbody>
</table>

\(^{gpd} = \text{gallons per day} \quad \text{sf} = \text{square feet}\)

\(^{1} \text{The estimates of wastewater generation conservatively assume that wastewater generation equals water consumption.}\)

\(^{2} \text{Rate source: City of Los Angeles Bureau of Sanitation, Sewer Generation Rates Table, March 20, 2002.}\)

\(^{3} \text{Assumes 30 square feet per seat in dining area.}\)

\(^{6} \text{City of Orange, 2015 Urban Water Management Plan, June 2016.}\)
Wastewater Treatment

The City of Orange relies on the Orange County Sanitation District (OCSD) for the regional collection and treatment of domestic, commercial, and industrial sewage. Although OCSD operates a comprehensive regional system of collection mains and treatment plants, individual cities are responsible for installing and maintaining local collection facilities.«

OCSD facilities operate under a waste discharge permit issued by the Santa Ana Regional Water Quality Control Board (RWQCB).» The OCSD is required to comply with the State Water Resources Control Board Order No. 2006-0003-DWQ adopted May 2, 2006, entitled Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.» The OCSD has two operating facilities that treat wastewater from residential, commercial, and industrial sources. For 2018-2019, Plant #1 processed an average daily flow of 120 million gallons of wastewater per day (mgd), and Plant #2 processed an average daily flow of 65 mgd, for a total of 185 mgd of wastewater processed per day.» As shown on Table 39, the two treatment plants have a surplus capacity of 91 mgd.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Average Flow (mgd)</th>
<th>Design Capacity (mgd)</th>
<th>Remaining Capacity (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reclamation Plant No. 1</td>
<td>120</td>
<td>108</td>
<td>-12</td>
</tr>
<tr>
<td>Treatment Plant No. 2</td>
<td>65</td>
<td>168</td>
<td>+103</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>185</strong></td>
<td><strong>276</strong></td>
<td><strong>+91</strong></td>
</tr>
</tbody>
</table>

mgd – million gallons daily


As shown on Table 38, the Project would generate a net total of approximately 1,556 gallons of wastewater per day. This amount would account for approximately 0.001 percent of the remaining capacity at the OCSD facilities. As such, the two OCSD treatment plants would have adequate capacity to accommodate the wastewater generated by the Project. Additionally, the Project proposes memory care/senior living uses and

» Santa Ana Regional Water Quality Control Boards: http://www.waterboards.ca.gov/santaana/
not any industrial or commercial land uses that could require special treatment. Thus, the Project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, Project impacts related to wastewater treatment would be less than significant.

**Stormwater Drainage**

Refer to response to Checklist Question 10(c) iii) (Hydrology and Water Quality – Storm Drain Capacity) regarding the Project’s less-than-significant impacts related to storm drain capacity.

**Electric Power**

Refer to response to Checklist Question 6(a) (Energy – Electricity and Natural Gas) regarding the Project’s less-than-significant impacts related to electric power.

**Natural Gas**

Refer to response to Checklist Question 6(a) (Energy – Electricity and Natural Gas) regarding the Project’s less-than-significant impacts related to natural gas.

**Telecommunications**

The Project Site is located in an urbanized area of the City that is already served by existing internet, cable television, and phone service, including AT&T, Spectrum, Cox Communications, and Viasat. Any facilities that are on the Project Site only serve the Project Site and would be re-established to serve the Project. The Project would not result in the relocation or construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Thus, no impacts related to this issue would occur as a result of the Project

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

**(b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, or multiple dry year?**

As shown on Table 38, the Project would result in a net increase in water demand of approximately 1,556 gallons per day. The proposed memory care facility is a land use that is allowed with a Conditional Use Permit under the existing zoning and land use designation for the Project Site and as such, the water demand for such a use has been accounted for in the City’s 2015 Urban Water Management Plan (2015 UWMP), which bases its water demand projections on water use by customer type (i.e., single-family residential, multi-family residential, commercial, institutional/government), among other factors. According to the 2015 UWMP, the City’s total projected water supplies available during normal, single dry, and multiple dry years during a 20-year projection (2020 through 2040) would meet the projected water demand associated with the Project, in addition to the City’s existing and planned future uses described in the 2015
The City can meet the Project’s demand through its existing water supply sources, including local groundwater, imported water, and local surface water. As the City has adequate capacity to produce the water demand required by the Project, no new or expanded water facility would be required. Impacts would therefore be less than significant. Thus, the Project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, or multiple dry year. Therefore, Project impacts related to water supply would be less than significant.

**Table 40**

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
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<tr>
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</tr>
</tbody>
</table>

*AF = acre feet


**Table 41**

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
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<tr>
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<td>31,270</td>
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*AF = acre feet


**Table 42**

<table>
<thead>
<tr>
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<th>2025</th>
<th>2030</th>
<th>2035</th>
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<td>First Year</td>
<td></td>
<td></td>
<td></td>
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Second year

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<th>2030</th>
<th>2035</th>
<th>2040</th>
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Third year

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<th>2030</th>
<th>2035</th>
<th>2040</th>
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</tr>
<tr>
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<td>31,270</td>
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<td>31,270</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*AF = acre feet


**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None
(c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?

Refer to response to Checklist Question 19(a) (Utilities and Service Systems – Wastewater Treatment) regarding the Project’s less-than-significant impacts related to wastewater treatment.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(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?

The landfills that serve the City include Prima Deshecha Landfill in San Juan Capistrano, Olinda Alpha Sanitary Landfill in Brea, and the Frank R. Bowerman Landfill in Irvine. The Orange County Integrated Waste Management Department (IWMD) owns and operates these landfills. Information regarding these landfills is detailed on Table 43. The landfills have a combined total daily disposal availability of 6,600 tons per day.

<table>
<thead>
<tr>
<th>Name</th>
<th>Max Daily Permitted</th>
<th>Estimated Daily Disposal</th>
<th>Available Daily Disposal</th>
<th>Closure Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prima Deshecha Landfill</td>
<td>4,000 tpd</td>
<td>1,400 tpd</td>
<td>2,600 tpd</td>
<td>12/31/2067</td>
</tr>
<tr>
<td>Olinda Alpha Sanitary Landfill</td>
<td>8,000 tpd</td>
<td>7,000 tpd</td>
<td>1,000 tpd</td>
<td>12/31/2021</td>
</tr>
<tr>
<td>Frank R. Bowerman Landfill</td>
<td>11,500 tpd</td>
<td>8,500 tpd</td>
<td>3,000 tpd</td>
<td>12/31/2053</td>
</tr>
</tbody>
</table>

Prima Deshecha: [https://www2.calrecycle.ca.gov/PublicNotices/Details/3656](https://www2.calrecycle.ca.gov/PublicNotices/Details/3656)

Olinda: [https://www2.calrecycle.ca.gov/swfacilities/Directory/30-AB-0035/](https://www2.calrecycle.ca.gov/swfacilities/Directory/30-AB-0035/)

Bowerman: [https://www2.calrecycle.ca.gov/swfacilities/Directory/30-AB-0360/](https://www2.calrecycle.ca.gov/swfacilities/Directory/30-AB-0360/)

As shown on Table 44, the Project would generate a net increase of approximately 0.09 tons of solid waste per day. This amount would represent approximately 0.001 percent of the total daily available capacity of the landfills that serve the City. Thus, the project be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs. Therefore, Project impacts related to landfill capacity would be less than significant.

---

### Table 44
Estimated Project Solid Waste Generation

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Size</th>
<th>Daily Solid Waste Generation Rates</th>
<th>Total (lbs per day)(^{a})</th>
<th>Total (tpd)(^{b})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>5,959 sf</td>
<td>5 lbs/1,000 sf</td>
<td>30</td>
<td>0.02</td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Care Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>36 beds</td>
<td>4 lbs/bed</td>
<td>144</td>
<td>0.07</td>
</tr>
<tr>
<td>Non-Residential</td>
<td>15,134 sf</td>
<td>5 lbs/1,000 sf</td>
<td>76</td>
<td>0.04</td>
</tr>
<tr>
<td>Project Subtotal</td>
<td></td>
<td></td>
<td>220</td>
<td>0.11</td>
</tr>
<tr>
<td>Less Existing</td>
<td></td>
<td></td>
<td>30</td>
<td>0.02</td>
</tr>
<tr>
<td>Net Total</td>
<td></td>
<td></td>
<td>90</td>
<td>0.09</td>
</tr>
</tbody>
</table>

\(^{a}\) lbs = pounds

\(^{b}\) tpd = tons per day

\(^{c}\) sf = square feet

\(^{d}\) 1 ton = 2,000 pounds

- Rates: CalRecycle Estimated Solid Waste Generation Rates: [http://www.calrecycle.ca.gov/LGcentral/GoalMeasure/DisposalRate/MostRecent/default.htm](http://www.calrecycle.ca.gov/LGcentral/GoalMeasure/DisposalRate/MostRecent/default.htm)
- Numbers may not add up due to rounding.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

(e) Comply with federal, state, and local statutes and regulations related to solid waste?

Trash, recyclables, and green waste within the City are collected by CR&R Waste and Recycling Services (CR&R). The Project Applicant is in the process of coordinating with CR&R to assess the waste disposal and recycling requirements and needs for the Project. The Project would share trash and recycling services through CR&R with the existing associated senior facility to the south. The shared trash and recycling receptacles would include a four-yard trash compactor, a four-yard bin for recyclable materials, and four 64-gallon carts for food waste. All green waste would be taken off-site by the landscapers and recycled at the appropriate facility. The Project would comply with federal, state, and local regulations related to waste reduction. Therefore, Project impacts related to waste reduction would be less than significant.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None

**Cumulative Impacts**

As shown on Table 36 previously in this MND, there are five cumulative projects within proximity to the Project Site. All of the sites of the cumulative projects are located in an urbanized area of the City, are
currently developed with uses that have a demand for utilities, and are currently served by existing utility infrastructure. The degree to which each cumulative project would result in a net change in the demand for utilities would be considered by the City on a project-by-project basis. Each cumulative project would be subject to existing regulatory requirements to offset demand for utilities, as with the Project. As discussed above, Project impacts related to utilities would be less than significant. Therefore, cumulative impacts related to utilities would be less than significant.
20. MANDATORY FINDINGS OF SIGNIFICANCE.

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Does the project have the potential to 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, 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?</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Does the project have impacts which 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).</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>(c) Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

(a) Does the project have the potential to 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, 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?

The Project Site is completely developed and is located in an urbanized area of the City. The Project would not 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, reduce the number or restrict the range of a rare or endangered plant or animal (refer to response to Checklist Topic 4 [Biological Resources]). As discussed in response to Checklist Question 5(a) (Cultural Resources – Historical Resources), Checklist Question 5(b) (Cultural Resources – Archaeological Resources) and Checklist Question 18(b) (Tribal Cultural Resources), with mitigation, the Project would not eliminate important examples of the major periods of California history.

**Significance Determination:** Less Than Significant With Mitigation Incorporated

**Mitigation Measures:**
CUL-1: In the event a potentially significant cultural resource is encountered during earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering the materials until a qualified archaeologist who meets the Secretary of Interior’s Professional Qualification Standards for archaeology has evaluated the situation. The Project Applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resource is determined to be significant under CEQA Guidelines Section 15064.5, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the CEQA Guidelines. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, and provide for the permanent curation or repatriation of the recovered resources in cooperation with the designated most likely descendant as needed. The report shall be submitted to the City of Orange, the South Central Coastal Information Center, and the State Historic Preservation Office (SHPO), if required.

TCR-1: Retain Tribal Monitor/Consultant. The Project Applicant shall retain and compensate a Tribal monitor/consultant who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the NAHC’s Tribal Contact list for the Project Site area. The Tribal monitor/consultant shall only be present on-site during the construction phases that involve ground disturbing activities. Ground-disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor/consultant shall complete daily monitoring logs that provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when Project grading and excavation activities are completed, or when the Tribal representatives and monitor/consultant have indicated that the site has a low potential for impacting TRCs.

TCR-2: Unanticipated Discovery of Tribal and Archaeological Resources. Upon discovery of any tribal or archaeological cultural resources, construction activities in the immediate vicinity of the find shall cease until the find can be assessed. All tribal and archaeological cultural resources unearthed as a result of construction activities shall be evaluated by the qualified archaeologist and Tribal monitor/consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. The Tribe monitor/consultant could
request preservation in place or recovery for educational purposes. Work may continue on other parts of the Project during evaluation and if necessary, additional protective mitigation takes place (CEQA Guidelines Section 15064.5 (f)). If a resource is determined to constitute a “historical resource” or “unique archaeological resource,” time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, shall be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources.

TCR-3: Public Resources Code Section 21083.2(b) (Unique Archaeological Resources). Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. All TCRs shall be returned to the Tribe. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to the Tribe or a local school or historical society in the area for educational purposes.

TCR-4: Unanticipated Discovery of Human Remains and Associated Funerary Objections. If human remains or funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 150-foot buffer of the find) shall cease, and the County Coroner shall be contacted. If the human remains are determined to be Native American in origin by the County Coroner, the Tribal monitor/consultant shall immediately notify the NAHC as mandated by state law to establish the Most Likely Descendent (MLD).

TCR-5: Kizh-Gabrieleño Procedures for Burial and Funerary Remains. If the Gabrieleño Band of Mission Indians – Kizh Nation is designated the MLD, the Koos-nas-gna Burial Policy shall be implemented. In the event that burial and funerary remains are encountered, all prepared soil and cremation soils shall be treated in the same manner as bone fragments that remain intact.

Prior to the continuation of ground-disturbing activities, the Project Applicant shall arrange a designated site location within the footprint of the Project Site for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe monitor/consultant shall make every effort to recommend diverting the project and keeping the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials could be removed. The Tribe monitor/consultant shall work closely with a qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the Tribe monitor/consultant, documentation shall be taken that
includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe monitor/consultant for data recovery purposes. Cremations shall either be removed in bulk or by means as necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location would be considered a cemetery, and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Gabrieleño Band of Mission Indians – Kizh Nation and the NAHC. No scientific study or the utilization of any invasive and/or destructive diagnostics on human remains shall be allowed.

Each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site, if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project Site but at a location agreed upon between the Gabrieleño Band of Mission Indians – Kizh Nation and the Project Applicant at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

**TCR-6: Professional Standards.** Archaeological and Native American monitoring and excavation during construction activities shall be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in Southern California. The Tribal monitor/consultant shall ensure that all other personnel are appropriately trained and qualified.

**Significance Determination After Mitigation:** Less Than Significant Impact

b) Does the project have impacts which 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).

As discussed throughout this MND, the project would not have impacts that are individually limited but cumulative considerable.

**Significance Determination:** Less Than Significant Impact

**Mitigation Measures:** None
c) Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?

As discussed in response to Checklist Question 9(b) (Hazards and Hazardous Materials – Risk of Upset), with implementation of Mitigation Measures HAZ-1 through HAZ-3, the project would not have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly.

**Significance Determination:** Less Than Significant Impact With Mitigation Incorporated

**Mitigation Measures:**

**HAZ-1:** Prior to issuance of a building permit, the soils in the southeastern corner of the Project Site, as indicated on Figure 2 of the Limited Phase II ESA dated September 6, 2019, shall be excavated to a depth of approximately 2 feet bgs. Deeper removals may be necessary in the vicinity of step-out boring LB1-SW2 and shall be confirmed by a California-registered Professional Geologist or Engineer with environmental consulting experience during removal activities (refer to Figure 2 of the Limited Phase II ESA dated September 6, 2019). Upon completion of removal activities, confirmation soil samples will be collected from the resulting excavation area to ensure that the dieldrin-impacted soil has been effectively removed. All work will be completed under the oversight of a California-registered Professional Geologist or Engineer with environmental consulting experience. All excavated soil shall be disposed of at an appropriate landfill or other waste receiptal facility.

**HAZ-2:** Prior to issuance of a demolition permit, the Project Applicant shall retain a qualified professional to identify any ACMs in the existing building. If ACMs are identified, abatement of the ACMs shall conducted by a qualified professional in accordance with all applicable federal, state, and local regulations.

**HAZ-3:** Prior to issuance of a demolition permit, the Project Applicant shall retain a qualified professional to identify any LBP in the existing building. If LBP is identified, abatement of the LBP shall conducted by a qualified professional in accordance with all applicable federal, state, and local regulations.

**Significance Determination After Mitigation:** Less Than Significant Impact