INITIAL STUDY/
NEGATIVE DECLARATION

HARBINGER MOTORS/12821 KNOTT STREET PROJECT

GARDEN GROVE, ORANGE COUNTY, CALIFORNIA

LSA

June 2025

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NEGATIVE DECLARATION

HARBINGER MOTORS/12821 KNOTT STREET PROJECT

GARDEN GROVE, ORANGE COUNTY, CALIFORNIA

Prepared for:

City of Garden Grove
Community Development Department
11222 Acacia Parkway
Garden Grove, California 92840

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LSA Project No. 20241951

June 2025

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LIST OF ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
AELUP	Airport Environs Land Use Plan
ALUC	Orange County Airport Land Use Commission
APN	Assessor's Parcel Number
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of Garden Grove
Cortese List	DTSC Hazardous Waste and Substances Site
County	County of Orange
CRHR	California Register of Historic Resources
dBA	A-weighted decibel
DIR	California Department of Industrial Relations
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EOP	Orange County Operational Area Unified Emergency Operations Plan
FAR	floor-area ratio
ft	foot/feet
GGPD	Garden Grove Police Department
GGSD	Garden Grove Sanitary District

GGWSD	Garden Grove Water Services Division
GPA	General Plan Amendment
HVAC	heating, ventilation, and air conditioning
in/sec	inch(es) per second
IS/ND	Initial Study/Negative Declaration
ITE	Institute of Transportation Engineers
JFTB	Joint Forces Training Base
LHMP	City of Garden Grove Local Hazard Mitigation Plan
LOS	level of service
MGD	million gallons per day
ND	Negative Declaration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OC Basin	Orange County Groundwater Basin
OCFA	Orange County Fire Authority
OCSD	Orange County Sanitary District
OCTAM	Orange County Transportation Analysis Model
OPR	Office of Planning and Research
PPV	peak particle velocity
project	Harbinger Motors/12821 Knott Street Project
REC	recognized environmental condition
RMS	root-mean-square
RWQCB	Regional Water Quality Control Board
SCE	Southern California Edison

SoCalGas	Southern California Gas Company
SR-	State Route
State CEQA Guidelines	State of California Guidelines for Implementation of the California Environmental Quality Act
TAZ	traffic analysis zone
TPA	transit priority area
UWMP	Garden Grove 2020 Urban Water Management Plan
VdB	vibration levels in RMS
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled

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1.0 ENVIRONMENTAL CHECKLIST FORM

1. Project Title:

Harbinger Motors/12821 Knott Street Project (project)

2. Lead Agency Name and Address:

City of Garden Grove
Community Development Department
11222 Acacia Parkway
Garden Grove, CA 92840

3. Contact Person and Phone Number:

Priit Kaskla, Associate Planner
(714) 741-5303
priitk@ggcity.org

4. Project Location:

12821 Knott Street
Garden Grove, CA 92841

5. Project Sponsor's (Applicant) Name and Address:

Harbinger Motors, Inc.
12821 Knott Street
Garden Grove, CA 92841

6. General Plan Land Use Designation:

According to the City of Garden Grove's (City) General Plan Land Use Element[1], the project site is currently designated for Industrial/Commercial Mixed Use (IC) land uses.

7. Zoning:

According to the City's Zoning Map, the project site is zoned as Planned Unit Development No. PUD-104-70 (REV. 2019) (refer to Figure 3-3, General Plan Land Use Designations). Accordingly, PUD-104-70 (REV. 2019) is the document regulating land uses on the project site. This zone and designation allows for uses including, but not limited to, manufacturing, light manufacturing, food products, compounding, and laboratory uses.

8. Description of Project:

As part of the project, the Applicant is seeking approval of one discretionary action, which would amend the IC land use designation in the City's General Plan to create two subareas (Subareas A

[1] City of Garden Grove. 2021. General Plan Land Use Element. Website: https://ggcity.org/sites/default/files/LandUseElement.pdf (accessed September 24, 2024).

and B), each of which would have a different maximum floor-area ratio (FAR). The following discussion briefly summarizes the project components.

The project at 12821 Knott Street (Assessor's Parcel Number [APN] 215-014-01) includes the construction of an additional 10,338 sf of mezzanine office space within the existing 173,000 sf building. Construction is anticipated to begin in 2025 and last for approximately 7 months. No exterior construction or revisions to the existing parking lot are proposed. All construction staging would be contained within the existing building, and all construction equipment would access the site from Knott Street on the east side of the project site. The project site's zoning (PUD 104-70 (REV. 2019)) allows for the current use, and the current use would not change with implementation of the project. Refer to Table 3.A: Existing and Proposed FAR by Parcel and Subarea, below, for information regarding each parcel affected by the General Plan Amendment (GPA) and associated creation of subareas within the IC land use designation and changes in the maximum FAR.

The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space would increase the FAR to 0.53. For the project site to remain in compliance with the General Plan Land Use designation and associated maximum FAR, an Amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. Under the proposed Amendment, five parcels (APNs 215-014-01, 215-014-02, 215-012-07, 215-012-08, and 215-013-01) would be included within the new Subarea B, which would allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5. The project site is at APN 215-014-01; therefore, the proposed General Plan Amendment would increase the allowable industrial FAR on the project site from 0.5 to 0.55. Figure 3-3, General Plan Land Use Designations, identifies each of these APNs and their existing and proposed maximum FARs.

APN 215-014-02 is the parcel immediately north of the project site. This parcel is currently occupied by a banquet facility/event hall (Garden Room Banquet Facility and Wedding Chapel) and is zoned Planned Unit Development No. PUD-105-96. At this time, there are no proposed projects or plans for expansion of the existing use on this parcel. The current development standards that apply to the PUD zone do not allow for industrial uses. If an expansion or land use change is proposed for this parcel in the future, a zone change and an amendment to the City's General Plan would be required at that time. Because the proposed increased FAR is only associated with industrial uses, the current commercial use at this parcel would have to change to industrial to take advantage of this increased FAR. Any proposed industrial use at this site would also be constrained by parking requirements and limitations. Industrial uses rely heavily on square- or rectangular-shaped buildings. The affected parcels are generally triangular is shape, limiting the potential uses by restricting access locations to the parcel. Also, the surrounding land uses, including the Garden Room Banquet Facility and Wedding Chapel and Calvary Chapel Westgrove, are long-running and well-established businesses. As such, a change in use at these parcels is not reasonably foreseeable at this time.

APNs 215-012-07 and 215-012-08 are across Knott Street from the project site. These parcels are currently owned and occupied by a religious use (Calvary Chapel Westgrove) under PUD 134-99. Similar to APN 215-014-02, there are no proposed projects or plans for expansion of the

existing use on these parcels. Unlike PUD 105-96 discussed above, PUD 134-99 does allow for industrial uses. However, if an expansion or land use change is proposed for these parcels in the future, subsequent land use entitlements and, potentially, General Plan or Zoning amendments would be required at that time. As noted above, industrial uses rely heavily on square or rectangular shaped buildings. The affected parcels are generally triangular is shape, limiting the potential uses by restricting access locations to the parcel. Also, the surrounding land uses, including the Garden Room Banquet Facility and Wedding Chapel and Calvary Chapel Westgrove, are long-running and well-established businesses. As such, a change in use at these parcels is not reasonably foreseeable at this time.

Under the proposed General Plan Amendment, 42 parcels would be included within IC Subarea A. Refer to Table 3.A: Existing and Proposed FAR by Parcel and Subarea, below, for information regarding each parcel affected by the GPA and associated creation of subareas within the IC land use designation and changes in the maximum FAR. The currently permitted land uses and maximum allowable FAR on these parcels (0.5) for both commercial and industrial uses would remain the same as the existing General Plan. There are no proposed projects or plans for expansion of the existing uses on these parcels at this time; however, if a proposed expansion or land use change is proposed in the future, a zone change and an amendment to the City's General Plan would be required at that time.

9. Surrounding Land Uses and Setting:

The project site is within a highly urbanized area of Garden Grove. Surrounding uses include the Garden Room Banquet Facility and Wedding Chapel to the north, office and industrial uses and the Calvary Chapel Westgrove across Knott Street to the east, the Garden Grove Freeway (State Route [SR-] 22) and the City of Westminster to the south, and a residential community to the west. Surrounding GP land uses include IC to the north and east, across Knott Street, Industrial (I) to the northeast across Knott Street, the Garden Grove Freeway (SR-22) and the City of Westminster to the south, and low-density residential (LDR) uses to the west, across Brady Way.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):

No approvals from Responsible or Trustee Agencies are necessary.

11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resource Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Public Resources Code Section 21080.3.1, et seq. (codification of Assembly Bill [AB] 52, 2013-14) requires that a Lead Agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American tribe traditionally and culturally affiliated with the geographic area of the project if that tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the tribe wishes to initiate formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The Lead Agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary

mitigation, agree that no mitigation is needed, or one or both parties determine that negotiation took place in good faith, but no agreement will be made. The project also includes a proposed General Plan Addendum (GPA), requiring Senate Bill 18 (SB 18) consultation in addition to AB 52 consultation. For SB 18 consultation, once notification is received by the tribes, tribes have 90 days to request consultation. The City originally sent letters with a written description of the project and maps depicting the project site to Native American contacts that had previously requested to be contacted by the City for potential consultation on January 7, 2025. A response was received during the open tribal consultation period from a representative of the Gabrieleño Band of Mission Indians – Kizh Nation on January 13, 2025. City staff sent a follow-up email on January 14, 2025, clarifying the scope of work and necessity for consultation and/or mitigation given that the project would not include any ground disturbing activities. The City sent another follow-up email on March 5, 2025 and received no response. On March 28, 2025 the City sent an email to the Kizh Nation deeming the consultation period closed. On March 31, the Kizh Nation responded asking for clarification regarding ground disturbing activities. City staff confirmed that there is no proposed ground disturbance.

2.0 INTRODUCTION AND PURPOSE

2.1 INTRODUCTION

Chapter 2 of this Initial Study/Negative Declaration (IS/ND) describes the purpose, environmental authorization, the intended uses of the IS/ND, documents incorporated by reference, and the process and procedures governing the preparation of the environmental document. Pursuant to Section 15367 of the State of California *Guidelines for Implementation of the California Environmental Quality Act* (*State CEQA Guidelines*), the City of Garden Grove (City) is the Lead Agency under the California Environmental Quality Act (CEQA). The City has primary responsibility for compliance with CEQA and consideration of the project.

This document is organized as follows:

- Chapter 1.0, Environmental Checklist Form, provides information about the project pursuant to Appendix G of the *State CEQA Guidelines*.
- Chapter 2.0, Introduction and Purpose, provides a discussion of the IS/ND's purpose, focus, and legal requirements.
- Chapter 3.0, Project Elements, provides a detailed description of the project.
- Chapter 4.0, Environmental Factors Potentially Affected, provides a list of environmental topics potentially affected by project implementation pursuant to the *State CEQA Guidelines*.
- Chapter 5.0, CEQA Environmental Checklist, includes a checklist and accompanying analyses of the project's effect on the environment. For each environmental issue, the analysis identifies the project's level of environmental impact.
- Chapter 6.0, List of Preparers, lists the contributors to the preparation of the IS/ND.
- Chapter 7.0, References, lists the references cited throughout the document.
- The appendices include the technical material prepared to support the IS/ND analysis.

2.2 PURPOSE

CEQA requires that the project be reviewed to determine the potential environmental effects that would result if the project were approved and implemented. The City is the Lead Agency and has the responsibility for preparing and adopting the associated environmental document prior to consideration of the approval of the project. The City has the authority to make decisions regarding discretionary actions relating to implementation of the project.

This IS/ND has been prepared in accordance with the relevant provisions of CEQA (California Public Resources Code [PRC] Section 21000 et seq.), the *State CEQA Guidelines,*[2] and the rules, regulations, and procedures for implementing CEQA, as adopted by the City. The IS/ND's objective is to inform City decision-makers, representatives of other affected/responsible agencies, the public, and interested parties of the project's potential environmental consequences.

As established in *State CEQA Guidelines* Section 15063(c), the purposes of an IS are to:

- Provide the Lead Agency (City of Garden Grove) with information to use as the basis for deciding whether to prepare a Negative Declaration (ND), Mitigated Negative Declaration (MND), or Environmental Impact Report (EIR)
- Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for an ND or MND
- Assist in the preparation of an EIR, if one is required
- Facilitate environmental assessment early in the design of a project
- Provide a factual basis for finding in an ND or MND that a project would not have a significant effect on the environment
- Eliminate unnecessary EIRs
- Determine whether a previously prepared EIR could be used to evaluate the environmental effects of the project

2.3 INTENDED USE OF THIS INITIAL STUDY

The City formally initiated the environmental process for the project with the preparation of this IS/ND. As identified in the following analyses, Project impacts related to various environmental issues either would not occur, would be less than significant (when measured against established significance thresholds) or would be rendered less than significant through implementation of mitigation measures.

State CEQA Guidelines Section 15150 permits the incorporation by reference of all or portions of other documents that are generally available to the public. The IS/ND has been prepared using information from City planning and environmental documents, technical studies specifically prepared for the project, and other publicly available data. The documents used in preparation of the IS/ND are identified in Chapter 7.0 and are hereby incorporated by reference.

2.4 PUBLIC REVIEW OF THE INITIAL STUDY

This IS was first circulated for public review from May 14, 2025 through June 4, 2025. Since that time, additional parcels in the City were identified as belonging in IC Subarea A. These additional

[2] California Code of Regulations, Title 14, Chapter 3, Sections 15000 through 15387.

parcels have been added to the IS. The inclusion of these additional parcels into Subarea A would not result in a material change to the parcels because, unlike the properties within proposed Subarea B, the existing maximum FAR on those parcels (0.5) for both commercial and industrial uses would remain the same as the existing General Plan. The IS and a Notice of Intent to adopt an ND will be distributed to affected agencies and other parties for a 20-day public review period. Written comments regarding this IS/ND should be addressed to:

Priit Kaskla, Associate Planner
City of Garden Grove
Community Development Department
11222 Acacia Parkway
Garden Grove, CA 92840
(714) 741-5303
priitk@ggcity.org

After the 20-day public review period, comments raised during the public review period will be considered and addressed prior to adoption of the ND by the City.

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3.0 PROJECT ELEMENTS

3.1 PROJECT LOCATION

The Harbinger Motors/12821 Knott Street Project (project) site is at 12821 Knott Street (Assessor's Parcel Number [APN] 215-014-01), in Garden Grove.

3.2 ENVIRONMENTAL SETTING

As noted above, the project site is currently developed with an approximately 173,000-square-foot (sf) warehouse building with associated parking lot and landscaping. The Applicant currently uses the project site as a manufacturing facility for medium-duty electric vehicles.

As shown on Figure 3-1, Project Site, regional access to the project site is provided by State Route 22 (SR-22), immediately south of the project site, and Knott Street, immediately east of the project site. Westminster is south of SR-22.

3.3 PROJECT DESCRIPTION

3.3.1 Project Overview

Harbinger Motors, Inc. (herein referred to as the "Applicant") currently occupies a 7.97-acre property at 12821 Knott Street (APN 215-014-01) in Garden Grove, California. The project includes the construction of a 10,338 sf mezzanine for additional office space within the existing approximately 173,000 sf (gross floor area) warehouse on the project site. The building currently includes 27,909 sf of office space split between the first and second floors. The warehouse portion of the building is on the first floor, with an external building height of 30 feet. The office and mezzanine space is on the first and second floors, with an external building height of 40 feet. The existing building has a floor-area ratio (FAR) of 0.50. The additional mezzanine square footage would increase the FAR to 0.53. To allow for the increased FAR, the project would require a GPA to create Subareas A and B within the existing IC land use designation. The creation of Subarea B would allow the project to proceed by increasing the maximum FAR at the project site.

3.3.2 Project Location and Site Description

3.3.2.1 Regional Setting

As noted above, the project site is currently developed with an approximately 173,000 sf warehouse building with associated parking lot and landscaping. The Applicant currently uses the project site as a manufacturing facility for medium-duty electric vehicles.

As shown on Figure 3-1, Project Site, regional access to the project site is provided by SR-22, located immediately south of the project site, and Knott Street, immediately east of the project site. Westminster is south of SR-22.

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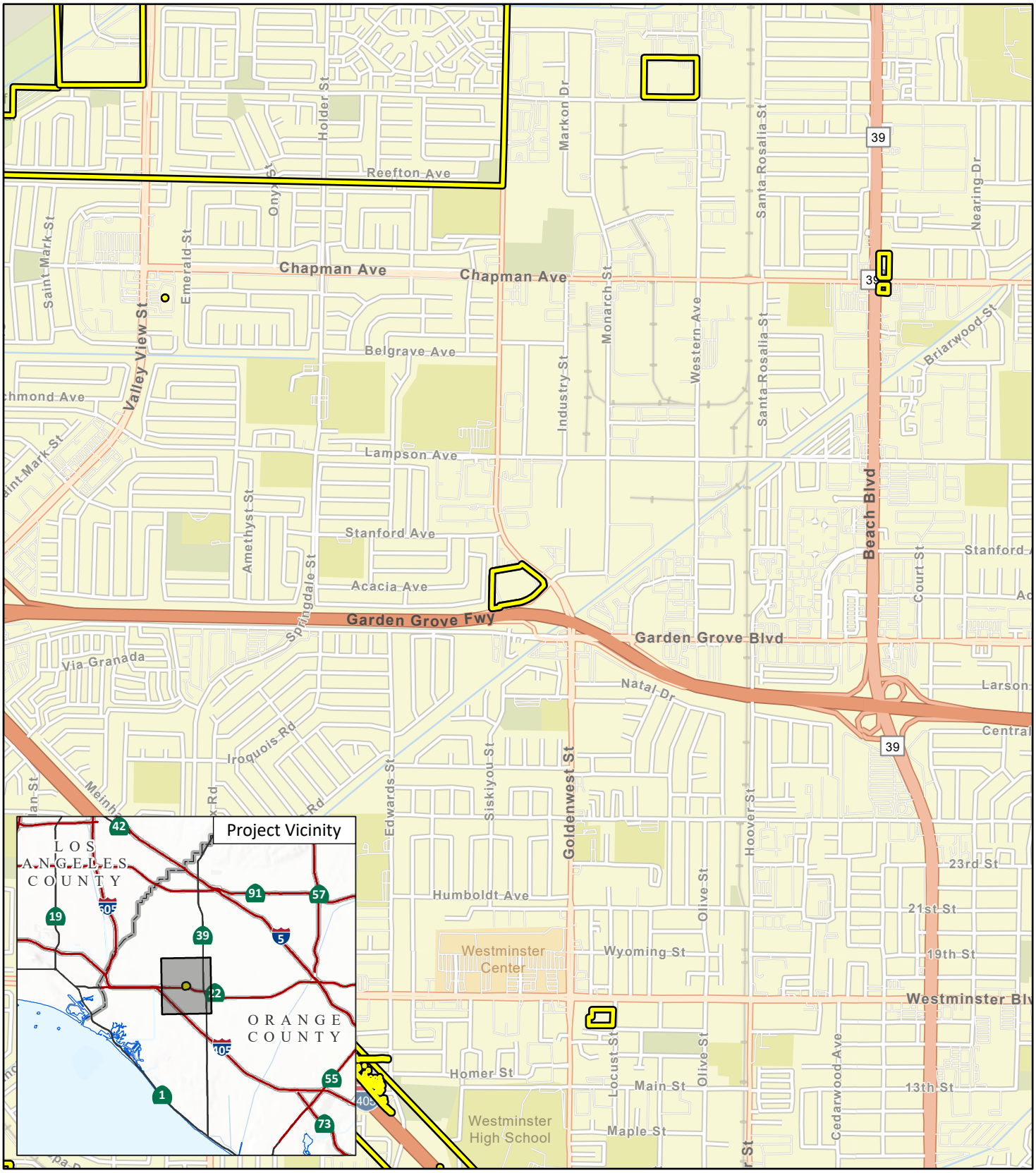

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Project Location

Project Site

FIGURE 3-1

N

0 1000 2000
FEET

SOURCE: Esri Street Map 2024

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12821 Knott Street Project

Project Location

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3.3.2.2 Project Vicinity and Surrounding Land Uses

The project site is within a highly urbanized area of Garden Grove. Surrounding uses include the Garden Room Banquet Facility and Wedding Chapel to the north, office and industrial uses and the Calvary Chapel Westgrove across Knott Street to the east, the Garden Grove Freeway (SR-22) and the City of Westminster to the south, and a residential community to the west. Surrounding GP land uses include Industrial/Commercial Mixed Use (IC) to the north and east, across Knott Street, Industrial (I) to the northeast across Knott Street, the Garden Grove Freeway (SR-22) and the City of Westminster to the south, and low-density residential (LDR) uses to the west, across Brady Way (refer to Figure 3-2 Existing Conditions).

3.3.2.3 Current Land Use and Zoning Designations

According to the City of Garden Grove's General Plan Land Use Element[3], the project site is currently designated for IC land uses. According to the City's Zoning Map, the project site is zoned as Planned Unit Development No. PUD-104-70 (REV. 2019) (refer to Figure 3-3, General Plan Land Use Designations). Accordingly, PUD-104-70 (REV. 2019) is the document regulating land uses on the project site. This zone and designation allows for uses including, but not limited to, manufacturing, light manufacturing, food products, compounding, and laboratory uses.

3.4 EXISTING CONDITIONS

As discussed above and illustrated in Figure 3-2, Existing Conditions, the project site is currently developed with an approximately 173,000 sf warehouse with associated parking lot and landscaping. The landscaping at the project site is largely comprised of non-native, ornamental plants and trees ranging from small bushes to trees more than 30 feet tall along the northern property boundary. The project site has a General Plan Land Use Designation of IC, with an FAR of 0.50. The property is currently owned by Rexford Industrial Realty, Inc., and leased and operated by the Applicant, who uses the property as a light manufacturing facility for assembly of its medium-duty electric vehicles. The project site zoning (PUD 104-70 [REV. 2019]) allows for the current use.

The existing parking lot at the project site provides more parking spaces than the Garden Grove Municipal Code requires for a building of its size. The City's Municipal Code requires 1 parking space per 1,000 sf of building space. Under current conditions, the building on the project site is approximately 173,000 sf, requiring 173 parking spaces. With implementation of the project, the building would increase to approximately 183,000 gross sf, requiring 183 parking spaces. The current parking lot includes 198 parking spaces, providing more than enough parking spaces to accommodate the existing building and the proposed improvements. Implementation of the project would not result in any changes to the current parking lot, and the resulting increase in usable square footage within the building would not require additional parking spaces in the existing parking lot. The project site is bounded by mature landscaping, as described above. The project site's western boundary, which is accessible from Brady Way and adjacent to the low-density

[3] City of Garden Grove. 2021. General Plan Land Use Element. Website: https://ggcity.org/sites/default/files/LandUseElement.pdf (accessed September 24, 2024).

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Project Site

Land Use

Industrial

Industrial/Commercial Mixed Use

Industrial/Residential Mixed Use

Light Commercial

Low Density Residential

Low Medium Density Residential

FIGURE 3-2

N

0 140 280

FEET

SOURCE: Google Maps (2024)

12821 Knott Street Project

Existing Conditions

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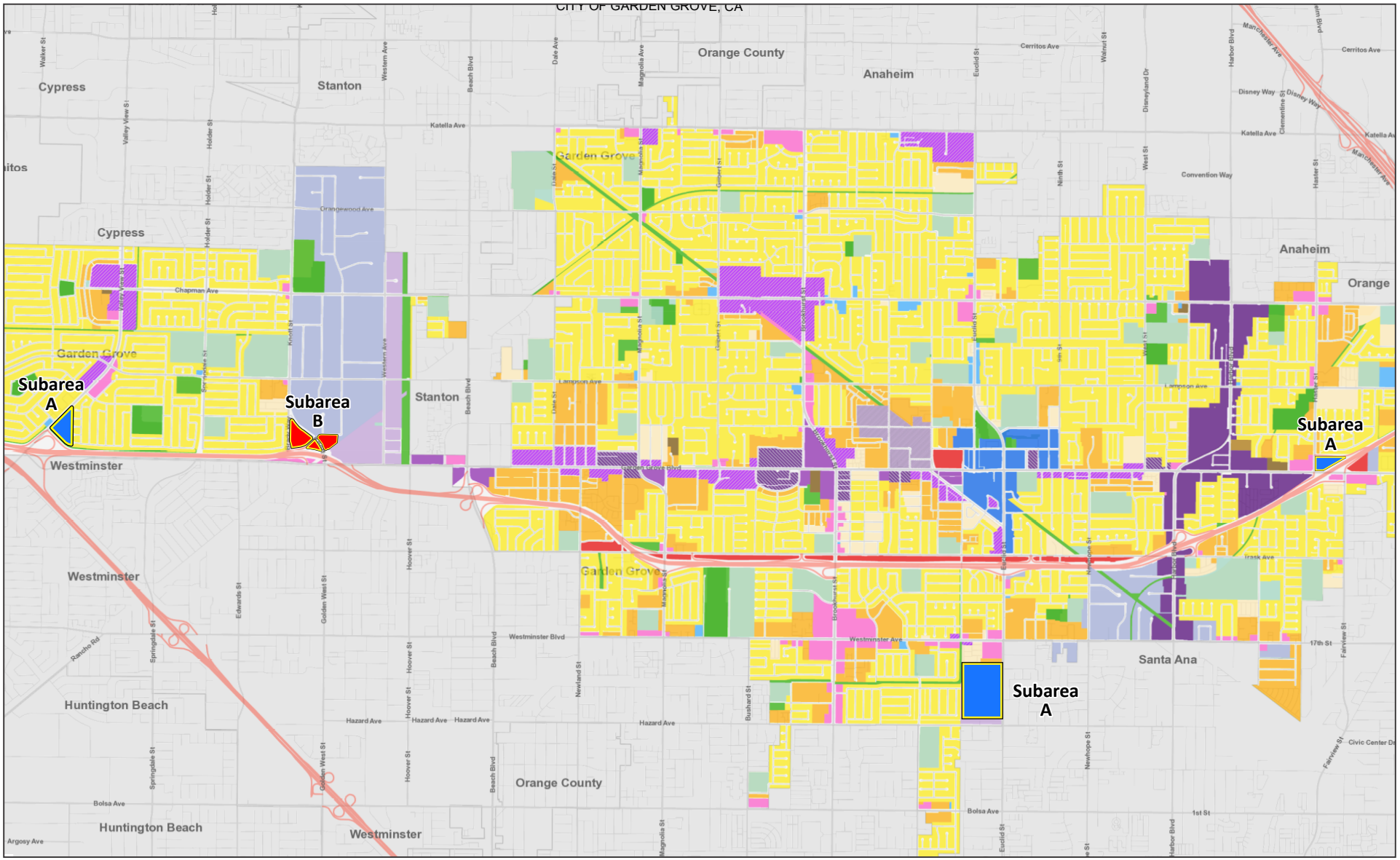

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FIGURE 3-3

LEGEND

- Project Site
- General Plan Land Use IC Subarea A
- General Plan Land Use IC Subarea B
- Low Density Residential
- Industrial
- Office Professional
- Civic/Institutional
- Medium Density Residential
- Parks and Open Space
- Industrial/Residential Mixed Use 1
- Light Commercial
- Residential/Commercial Mixed Use 2
- Low Medium Density Residential
- Industrial/Commercial Mixed Use

N

0 670 1340
FEET

SOURCE: City of Garden Grove

12821 Knott Street Project

General Plan Land Use Designations

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residential uses west of the project site, is improved with a 6-foot-high block wall. Brady Way at the project site boundary is only accessible as an emergency entrance/exit, with a locked gate across the roadway accessible by emergency access only.

3.5 PROPOSED PROJECT

As part of the project, the Applicant is seeking approval of an amendment to the IC land use designation in the City's General Plan to create two subareas (Subareas A and B), each of which would have a different maximum FAR. The following discussion briefly summarizes the project components.

The project at 12821 Knott Street (APN 215-014-01) includes the construction of an additional approximately 10,338 sf of mezzanine office space within the existing 173,000 sf building (refer to Figure 3-4 Site Plan). Construction is anticipated to begin in 2025 and last for approximately 7 months. No exterior construction or revisions to the existing parking lot are proposed. All construction staging would be contained within the existing building, and all construction equipment would access the site from Knott Street on the east side of the project site. The project site's zoning (PUD 104-70 [REV. 2019]) allows for the current use, and the current use would not change with implementation of the project. Refer to Table 3.A: Existing and Proposed FAR by Parcel and Subarea, below, for information regarding each parcel affected by the GPA and associated creation of subareas within the IC land use designation and changes in the maximum FAR.

Table 3.A: Existing and Proposed FAR by Parcel and Subarea

Assessor's Parcel Number (APN)	Existing Maximum FAR	Proposed Subarea	Proposed Maximum Industrial FAR
215-014-01 (project site)	0.50	B	0.55
215-014-02	0.50	B	0.55
215-012-07	0.50	B	0.55
215-012-08	0.50	B	0.55
215-013-01	0.50	B	0.55
099-181-62	0.50	A	0.50
099-181-67	0.50	A	0.50
099-181-68	0.50	A	0.50
099-181-69	0.50	A	0.50
099-181-70	0.50	A	0.50
099-181-71	0.50	A	0.50
099-181-72	0.50	A	0.50
099-181-73	0.50	A	0.50
099-181-74	0.50	A	0.50
099-181-75	0.50	A	0.50
099-181-76	0.50	A	0.50
099-181-77	0.50	A	0.50
099-181-78	0.50	A	0.50
099-181-79	0.50	A	0.50
099-181-80	0.50	A	0.50
099-181-81	0.50	A	0.50
099-181-82	0.50	A	0.50

Table 3.A: Existing and Proposed FAR by Parcel and Subarea

Assessor's Parcel Number (APN)	Existing Maximum FAR	Proposed Subarea	Proposed Maximum Industrial FAR
099-181-83	0.50	A	0.50
099-181-84	0.50	A	0.50
099-181-85	0.50	A	0.50
099-181-86	0.50	A	0.50
099-181-87	0.50	A	0.50
099-181-88	0.50	A	0.50
099-181-89	0.50	A	0.50
099-182-14	0.50	A	0.50
099-182-15	0.50	A	0.50
099-182-16	0.50	A	0.50
099-182-17	0.50	A	0.50
099-182-22	0.50	A	0.50
099-182-23	0.50	A	0.50
099-182-24	0.50	A	0.50
099-182-25	0.50	A	0.50
099-182-26	0.50	A	0.50
099-182-27	0.50	A	0.50
099-182-28	0.50	A	0.50
099-182-29	0.50	A	0.50
099-183-03	0.50	A	0.50
217-052-01	0.50	A	0.50
217-052-02	0.50	A	0.50
231-111-01	0.50	A	0.50
231-111-02	0.50	A	0.50
231-111-03	0.50	A	0.50

Source: Compiled by LSA (2025).
FAR = Floor Area Ratio

The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space would increase the FAR to 0.53. For the project site to remain in compliance with the General Plan Land Use designation and associated maximum FAR, an Amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. Under the proposed Amendment, five parcels (APNs 215-014-01, 215-014-02, 215-012-07, and 215-012-08, 215-013-01) would be included within the new Subarea B, which would allow a maximum

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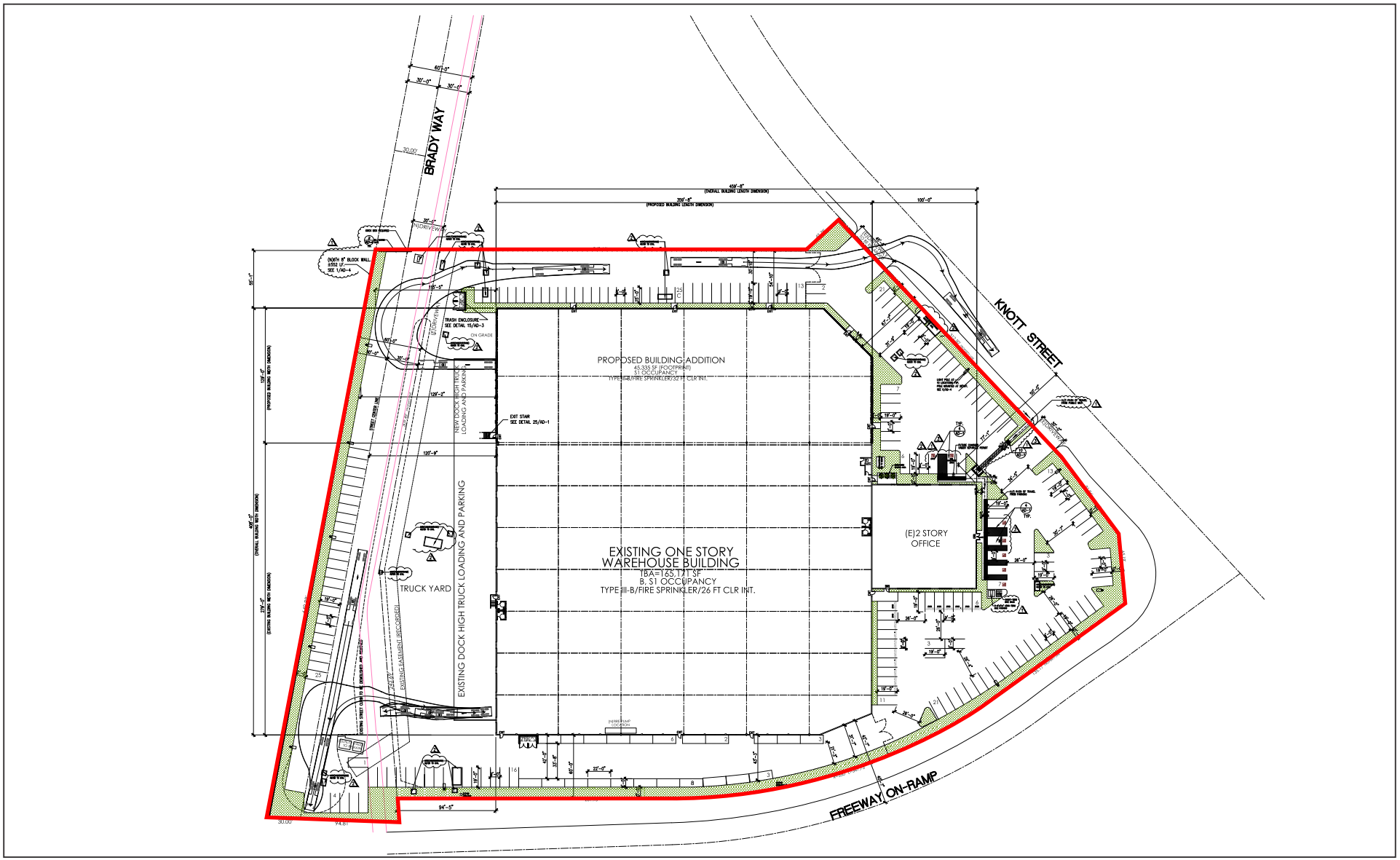

LSA

LEGEND

Project Site

FIGURE 3-4

0 60 120

FEET

SOURCE: JGC Architecture

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12821 Knott Street Project

Site Plan

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industrial FAR of 0.55, and a maximum commercial FAR of 0.5. The project site is at APN 215-014-01; therefore, the proposed GPA would increase the allowable industrial FAR on the project site from 0.5 to 0.55. Figure 3-3, General Plan Land Use Designations, identifies each of these APNs and their existing and proposed maximum FARs.

APN 215-014-02 is the parcel immediately north of the project site. This parcel is currently occupied by a banquet facility/event hall (Garden Room Banquet Facility and Wedding Chapel) and is zoned Planned Unit Development No. PUD-105-96. At this time, there are no proposed projects or plans for expansion of the existing use on this parcel. The current development standards that apply to the PUD zone do not allow for industrial uses. If an expansion or land use change is proposed for this parcel in the future, a zone change and an amendment to the City's General Plan would be required at that time. Because the proposed increased FAR is only associated with industrial uses, the current commercial use at this parcel would have to change to industrial to take advantage of this increased FAR. Any proposed industrial use at this site would also be limited by parking requirements and limitations. Industrial uses rely heavily on square- or rectangular-shaped buildings. The affected parcels are generally triangular is shape, limiting the potential uses by restricting access locations to the parcel. Also, the surrounding land uses, including the Garden Room Banquet Facility and Wedding Chapel and Calvary Chapel Westgrove, are long-running and well-established businesses. As such, a change in use at these parcels is not reasonably foreseeable at this time.

APNs 215-012-07 and 215-012-08 are across Knott Street from the project site. These parcels are currently owned and occupied by a religious use (Calvary Chapel Westgrove) under PUD 134-99. Similar to APN 215-014-02, there are no proposed projects or plans for expansion of the existing use on these parcels. Unlike PUD 105-96 discussed above, PUD 134-99 does allow for industrial uses. However, if an expansion or land use change is proposed for these parcels in the future, subsequent land use entitlements and potentially General Plan or Zoning amendments would be required at that time. As noted above, industrial uses rely heavily on square- or rectangular-shaped buildings. The affected parcels are generally triangular is shape, limiting the potential uses by restricting access locations to the parcel. Also, the surrounding land uses, including the Garden Room Banquet Facility and Wedding Chapel and Calvary Chapel Westgrove, are long-running and well-established businesses. As such, a change in use at these parcels is not reasonably foreseeable at this time.

Under the proposed GPA, 42 parcels would be included within IC Subarea A. Table 3.A: Existing and Proposed FAR by Parcel and Subarea, below, for information regarding each parcel affected by the GPA and associated creation of subareas within the IC land use designation and changes in the maximum FAR. The currently permitted land uses and maximum allowable FAR on these parcels (0.5) for both commercial and industrial uses would remain the same as the existing General Plan. There are no proposed projects or plans for expansion of the existing uses on these parcels at this time; however, if a proposed expansion or land use change is proposed in the future, a zone change and an amendment to the City's General Plan would be required at that time. The proposed GPA does not approve any project on any parcel, any such future development would require discretionary approvals and further CEQA review and projecting future development that could take advantage of the FAR change on these parcels in the future would be speculative. Although no redevelopment is reasonably foreseeable, potential impacts from the FAR amendment are analyzed at a programmatic level.

3.6 SCOPE OF THE INITIAL STUDY/ NEGATIVE DECLARATION

This IS/ND will serve as a Program IS/ND to environmentally clear the discretionary action included as part of the project, which is to amend the IC General Plan Land Use Designation by creating Subareas A and B, as described herein.

A programmatic analysis is appropriate for a series of actions that can be characterized as one large project and that are related either geographically, as logical parts in the chain of contemplated actions; in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways. Because the project includes an amendment to the IC land use designation in the City's General Plan to create Subareas A and B and to increase the maximum allowed FAR from 0.50 to 0.55 in Subarea B, the project may be considered a logical part of the chain of anticipated actions required for the development and implementation of the project.

While this IS/ND is programmatic in nature, it should be noted that construction and operation of the following project-specific components are analyzed at a project level in this document:

- Construction and operation of an additional 10,338 sf of mezzanine office space within the existing 173,000 sf building at 12821 Knott Street

3.7 INITIAL STUDY DISCRETIONARY ACTIONS, PERMITS, AND OTHER APPROVALS

In accordance with Sections 15050 and 15367 of the *State CEQA Guidelines*, the City is the designated Lead Agency for the project and has principal authority and jurisdiction for CEQA actions and project approval. Responsible Agencies are those agencies that are not the lead agency and that have discretionary approval power over an aspect of a proposed project. Trustee Agencies are State agencies that have jurisdiction by law over natural resources affected by a proposed project.

The discretionary actions to be considered by the City (Lead Agency) as a part of the project include:

- Approval of a General Plan Amendment by the City Council to create two subareas (Subareas A and B) within the existing IC General Plan land use designation. Subarea A would maintain the current maximum FAR of 0.50, while the maximum allowable industrial FAR in Subarea B would increase to 0.55 (the maximum commercial FAR in Subarea B would remain 0.5).

No approvals from Responsible or Trustee Agencies are necessary.

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below (x) 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.

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

4.1 Determination

On the basis of this initial evaluation:

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

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the proposed project MAY have a "potentially significant impact" 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.

☐ 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.

Signature	Date
Printed Name	For Priit Kaskla, Associate Planner

4.2 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," as described in (5) below, may be cross-referenced).

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. *State CEQA Guidelines* §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.

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5.0 CEQA ENVIRONMENTAL CHECKLIST

The California Environmental Quality Act (CEQA) Environmental Checklist analysis included below provides impact conclusions for the mezzanine addition at 12821 Knott Street, and a separate analysis for the floor-area ratio (FAR) amendment. Where the impact conclusions for the mezzanine and the FAR amendment are different, the component with the greatest level of impact conclusion is identified in the table at the beginning of each resource topic section below.

5.1 AESTHETICS

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

5.1.1 Impact Analysis

a. Would the Project have a substantial adverse effect on a scenic vista?

Mezzanine Addition (No Impact). Scenic vistas are generally defined as publicly accessible viewpoints that provide expansive or panoramic views of scenic resources. No City of Garden Grove (City) designated scenic vistas, or other scenic resources have been identified within Garden Grove. The Harbinger Motors/12821 Knott Street Project (project) includes the construction of a mezzanine for additional office space within the existing warehouse on the project site. No exterior construction or revisions to the existing parking lot are proposed. Therefore, the project would not alter the existing views in the vicinity of the project site. All proposed improvements would be limited to the interior of the existing building, and construction staging would take place within the parking lot on the project site. Therefore, the project would have **no impact** on scenic vistas. Mitigation is not required.

FAR Amendment (No Impact). In addition, under the project, a GPA proposes the establishment of two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect scenic vistas because there are no scenic vistas near or in the vicinity of the project site or any of the parcels affected by the GPA.

Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to scenic vistas. **No impact** related to scenic vistas would occur with the implementation of the GPA component of the project.

b. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Mezzanine Addition (No Impact). The California Department of Transportation (Caltrans) Scenic Highway Program does not designate any highways within Garden Grove as officially designated scenic highways. Although a portion of State Route (SR-) 91 approximately 11.5 miles to the northeast of the project site is an officially designated scenic highway,[4] SR-91 is not near enough for the project to affect scenic resources within its scenic corridor. Additionally, the project consists of interior improvements to an existing building, which would not be visible from the exterior. Therefore, **no impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. As noted above, there are no designated scenic highways in the vicinity of the parcels affected by the GPA. Although a portion of SR-91 approximately 11.5 miles northeast of the project site is an officially designated scenic highway, SR-91 is not near enough for the project to affect scenic resources within its scenic corridor. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to scenic resources within a State scenic highway. **No impact** related to scenic resources within a State scenic highway would occur with the implementation of the GPA component of the project.

c. In non-urbanized areas, would the Project 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 a publicly accessible vantage point.) If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

Mezzanine Addition (Less Than Significant Impact). As of 2020, the United States Census Bureau estimated Garden Grove's population to be 171,949 and the land area to be 17.96 square miles.[5] The project is in an area with at least 1,000 persons per square mile and therefore meets the definition of "Urbanized Area" under Section 15387 of the *State CEQA Guidelines*.

During construction, the presence of construction vehicles and equipment in the parking lot may degrade the visual quality of the project site. The presence of construction vehicles and equipment would be temporary and would cease once construction is complete. Due to the temporary nature

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4 California Department of Transportation (Caltrans). 2018. California State Scenic Highway System Map. Website: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed December 2024).

5 United States Census Bureau. n.d. QuickFacts, Garden Grove City, California. Website: https://www.census.gov/quickfacts/fact/table/gardengrovecitycalifornia,US (accessed December 2024).

of construction activities, impacts to visual character of the site would be **less than significant** during construction.

Operation of the project would not alter the existing visual character of the site and its surroundings. The project proposes a mezzanine within the existing warehouse building. These interior improvements would not be visible from any public view. In addition, the project does not propose any changes to the exterior of the project site. The project would be consistent with the development standards set forth by the City's Zoning Ordinance and the project would not conflict with applicable zoning or other regulations governing scenic quality. Impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). As previously mentioned, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect scenic quality, because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to scenic quality. **No impact** related to scenic quality would occur with implementation of the GPA component of the project.

d. Would the Project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?

Mezzanine Addition (No Impact). There are no new sources of light or glare proposed under the project. The project includes the construction of a mezzanine within an existing warehouse building. No new exterior light fixtures are proposed for the project site. The project would not change the existing daytime or nighttime views in the area. Therefore, **no impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect daytime or nighttime views, because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to daytime or nighttime views. **No impact** related to daytime or nighttime views would occur with implementation of the GPA component of the project.

5.2 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 CAL FIRE regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

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

5.2.1 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?

Mezzanine Addition (No Impact). The California Department of Conservation Farmland Mapping and Monitoring Program[6] designates the project site as "Urban and Built-Up Land". Urban and Built-Up Land is defined as land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. In addition, the project site is surrounded by land designated as "Urban and Built-Up". There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within Garden Grove, nor are there any land use designations or

[6] California Department of Conservation. 2016. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/DLRP/CIFF/ (accessed December 2024).

zones for agriculture. The project site is not currently occupied by agricultural production, as it would conflict with the permitted uses of the existing General Plan and Zoning District. Therefore, **no impact** to Farmland would occur and no mitigation is required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. As noted above, there is no Farmland in the vicinity of the parcels affected by the GPA. The GPA would not affect Farmland, because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to farmland. **No impact** related to Farmland would occur with implementation of the GPA component of the project.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Mezzanine Addition (No Impact). The project site is zoned Industrial/Commercial Mixed Use (IC) and is not zoned for agricultural use. The project site is not under a Williamson Act contract, as there are no active Williamson Act contracts within Garden Grove.[7] Implementation of the project would therefore not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract. **No impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). As stated above, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. There are no Williamson Act contracts assigned to any parcels in the vicinity of the project site itself or any of the parcels affected by the GPA. The GPA would not affect Williamson Act contracts, because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to Williamson Act contracts. **No impact** related to Williamson Act contracts would occur with implementation of the GPA component of the project.

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))?

Mezzanine Addition (No Impact). The project site is zoned for IC and is not zoned for forest land, timberland, or timberland production. Additionally, none of the surrounding land uses are zoned for forest land, timberland, or timberland production. Therefore, there is no potential for the project to conflict with existing zoning for forest land or land zoned for timberland production. **No impact** would occur, and no mitigation is required.

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7 California Department of Conservation. n.d. *California Williamson Act Enrollment Finder*. Website: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html (accessed December 2024).

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. None of the parcels affected by the GPA are zoned for forest land, timberland, or timberland production. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to forest land and timberland. **No impact** related to forest land or timberland would occur with implementation of the GPA component of the project.

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

Mezzanine Addition (No Impact). The project site and adjacent land are not occupied by forest resources. Implementation of the project would not result in the loss or conversion of forest land to non-forest land. **No impact** would occur to forest land, and no mitigation is required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. There are no forest resources in the vicinity of the project site itself or any of the parcels affected by the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to forest resources. Therefore, the implementation of the GPA would have **no impact** on any forest resources.

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?

Mezzanine Addition (No Impact). No Farmland or forest land exists on site or on adjacent land. Development of the project would take place specifically on APN 215-014-01. Therefore, implementation of the project would not involve other changes in the existing environment that could result in the conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use. **No impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). As mentioned above, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. There is no Farmland or forest land within the vicinity of the project site or the parcels that would be affected by the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to farmland or forestland. **No impact** related to farmland or forestland would occur with the implementation of the GPA component of the project.

5.3 AIR QUALITY

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

5.3.1 Impact Analysis

The discussion and analysis presented in this section is from the *Air Quality and Greenhouse Gas Technical Memorandum* prepared by LSA Associates, Inc. for the project in March 2025 (**Appendix A**).

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

Mezzanine Addition (Less Than Significant Impact). A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The project would include a modification to an existing building to add 10,338 sf mezzanine for additional office space. The project is not considered a project of statewide, regional, or area wide significance (e.g., large-scale projects such as airports, electrical generating facilities, petroleum and gas refineries, residential development of more than 500 dwelling units, or shopping centers or business establishments employing more than 1,000 persons or encompassing more than 500,000 sf of floor space) as defined in the California Code of Regulations (Title 14, Division 6, Chapter 3, Article 13, §15206(b)). Because the project would not be defined as a regionally significant project under CEQA, it does not meet the SCAG Intergovernmental Review criteria.

The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space would increase the FAR to 0.53. For the project site to remain in compliance

with the General Plan Land Use designation and associated maximum FAR, an amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. Under the proposed amendment, five parcels (APNs 215-014-01, 215-014-02, 215-012-07, 215-012-08, and 215-013-01) would be included within the new Subarea B, which would allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5. The project site is at APN 215-014-01; therefore, the proposed General Plan amendment would increase the allowable industrial FAR on the project site from 0.5 to 0.55.

The City's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD Air Quality Management Plan (AQMP). Pursuant to the methodology provided in the SCAQMD *CEQA Air Quality Handbook*, consistency with the Basin's 2022 AQMP is affirmed when a project (1) would not increase the frequency or severity of an air quality standard violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented as follows:

1. The project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated below; therefore, the project would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standards violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the project is not defined as significant.

The project is an industrial/commercial mixed-use development consisting of the construction of an approximate 10,338 sf of mezzanine office space within the existing 173,000 sf building. Since the project is not proposing residential uses, there would be no new generation of residents in Garden Grove. The project may generate an additional 10 to 15 employees, which could potentially be filled by existing residents of Garden Grove, and which represents a negligible increase to the total population of Garden Grove, and accounts for approximately 0.3 percent of the projected employee growth for the City of 4,300 employees by 2035. In addition, the number of employees is limited by the capacity of parking lot spaces, which would not change under the project. As such, implementation of the project is consistent with planned growth within Garden Grove, and the project would not directly or indirectly induce growth in the Garden Grove. Thus, the project would be consistent with the City's General Plan and Zoning Ordinance.

Based on the consistency analysis presented above, the project would be consistent with the regional AQMP. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. The GPA would not affect consistency with the regional AQMP because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected

parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to the regional AQMP. **No impact** related to the regional AQMP would occur with the implementation of the GPA component of the project.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?

Mezzanine Addition (Less Than Significant Impact). The Basin is currently designated nonattainment for the federal and State standards for 8-hour O_3 and PM_{10}. The Basin is also nonattainment for the State standard for 1-hour O_3. The Basin's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of an ambient air quality standard. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is not necessary. The following analysis assesses the potential project-level air quality impacts associated with construction and operation of the project.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by building construction, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, nitrogen oxides (NO_X), VOCs, directly emitted $PM_{2.5}$ or PM_{10}, and toxic air contaminants such as diesel exhaust particulate matter.

Project construction activities would include building construction and architectural coating.

SCAQMD has established Rule 403: Fugitive Dust, which would require the Applicant to implement measures that would reduce the amount of particulate matter generated during the construction period. Rule 403 measures that were incorporated in this analysis include:

- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, sulfur oxides (SO_X), NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod and are summarized in Table 5.A (CalEEMod output sheets are provided in Attachment B of Appendix A to this IS, Air Quality and Greenhouse Gas Emission Memorandum). Because specific construction equipment that may be used was not known at the time of modeling, default equipment was used and are thus likely more conservative.

The results shown in Table 5.A indicate the project would not exceed the significance criteria for daily VOCs, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, construction of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Table 5.A: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$
Building Construction	0.9	8.6	12.0	<0.1	0.5	0.4
Architectural Coating	1.9	0.9	1.2	<0.1	<0.1	<0.1
Peak Daily Emissions	**2.8**	**9.5**	**13.2**	**<0.1**	**0.6**	**0.5**
SCAQMD Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Operational Air Quality Impacts. Long-term air pollutant emissions associated with operation of the project include emissions from area, energy, and mobile sources.

Mobile-source emissions are from vehicle trips associated with the operation of the project. Mobile source emissions include VOC and NO_X emissions that contribute to the formation of O_3. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways.

Energy-source emissions generally result from activities in buildings that use natural gas. Energy-source emissions result from activities in buildings that use natural gas. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source. However, the project would not use natural gas. Therefore, energy-source emissions would be minimal.

Area-source emissions generally include architectural coatings, consumer projects, and landscaping. Area-source emissions consist of direct sources of air emissions at the project site, including architectural coatings, consumer products, and use of landscape maintenance equipment.

Long-term operational emissions associated with the project were calculated using CalEEMod. Table 5.B provides the estimated existing emission estimates and the project's estimated operational emissions.

Table 5.B: Project Operational Emissions

Emission Type	Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	0.4	0.3	3.3	<0.1	0.8	0.2
Area Sources	0.3	<0.1	0.5	<0.1	<0.1	<0.1
Energy Sources	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Project Emissions	**0.7**	**0.4**	**3.8**	<0.1	**0.8**	**0.2**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

The results shown in Table 5.B indicate the project would not exceed the significance criteria for daily VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Due to the nonattainment status of the Basin, the primary air pollutants of concern would be NO_X and VOCs, which are ozone precursors, and PM_{10} and $PM_{2.5}$. As detailed in Table 5.B, long-term emissions were calculated for VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ expected to be generated through operation of the project and indicate project-related emissions would not exceed the established SCAQMD daily emission thresholds for any criteria pollutants. Without any exceedance in air quality emissions thresholds, the project would not result in a cumulatively considerable contribution to significant air quality impacts. Cumulative air quality impacts would be **less than significant**. Mitigation is not required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. The GPA would not result in a cumulatively considerable net increase of any criteria pollutants because the FAR amendment would not result in physical changes to the project site or its vicinity. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to criteria pollutants. **No impact** related to a cumulatively considerable net increase of any criteria pollutants would occur with the implementation of the GPA component of the project.

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

Mezzanine Addition (Less Than Significant Impact). Sensitive receptors are defined as people who have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling units. The nearest sensitive receptors include residences west of the project site approximately 175 feet from the project site boundaries. A summary of the analysis distances relative to the sensitive receptors for air quality is provided in Table 5.C.

Table 5.C: Summary of Analysis Distances by Impact Category

Activity	Nearest Sensitive Receptor	Points of Analysis	Distance (feet)
Construction[1]	Single-family homes on Dumont Street	Perimeter of construction activities (the edge of the existing building as construction would all be inside) to centroid of nearest sensitive receptor[1]	175
Operations	Single-family homes on Dumont Street	Emissions sources on-site generalized at the centroid of the project site to centroid of nearest sensitive receptor	390

[1] Distance for construction air quality impact potential includes the conservative assumption that heavy construction equipment would operate adjacent to the project site boundary, which is 30 feet from the nearest off-site structures where a person would live. As it is assumed that the typical resident would move around the home during these periods, the centroid of the house is used as the "average" location of the resident in the house. This assumption is a conservative analysis of construction impacts. If the actual construction doesn't require any actions adjacent to the boundary, then all construction emissions would be further from the off-site homes, reducing pollutant impacts.

An LST analysis was completed to show the construction and operational impacts at 53 meters (175 feet) to the nearest sensitive receptors to the project site in State Responsibility Area 17, based on a 1-acre daily disturbance area for construction and project site for operation. Table 5.D shows the results of the LST analysis during project construction and operation.

Table 5.D: Project Localized Construction and Operational Emissions

Source	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction Emissions				
On-Site Emissions	8.6	11.8	0.5	0.4
Localized Significance Threshold	**84**	**776**	**13**	**4**
Significant?	**No**	**No**	**No**	**No**
Operational Emissions				
On-Site Emissions	0.1	0.7	<0.1	<0.1
Localized Significance Threshold	**84**	**776**	**3**	**1**
Significant?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Source Receptor Area 17, based on a 1 -acre construction disturbance daily area and project site for operation, at a distance of 53 meters (175 feet) from the project site boundary.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

By design, the localized impact analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions detailed in Table 5.D assume all area- and energy-source emissions would occur on site, and 5 percent of the project-related new mobile sources (which is an estimate of the amount of project-related on-site vehicle and truck travel) would occur on site. Considering the total trip length included in CalEEMod (from 6 to 16 miles), and that the distance traveled onsite would be a few hundred feet, the 5 percent assumption is conservative. Table 5.D indicates the localized operational emissions would not exceed the LSTs at nearby residences. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

As detailed in Table 5.D, the emission levels indicate that the project would not exceed SCAQMD LSTs during project construction or operation. The project's peak operational on-site NOX emissions would be less than 1 pound per day. Due to the small size of the project in relation to the overall Basin, the level of emissions is not sufficiently high enough to use a regional modeling program to correlate health effects on a Basin-wide level. On a regional scale, the quantity of emissions from the project is incrementally minor. Because the SCAQMD has not identified any other methods to quantify health impacts from small projects, and due to the size of the project, it is speculative to assign any specific health effects to small project-related emissions. However, based on this localized analysis, the project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the project would not expose sensitive receptors to substantial levels of pollutant concentrations. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. The GPA would not affect sensitive receptors because the FAR amendment would not result in physical changes to the project site or its vicinity. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to sensitive receptors. **No impact** related to sensitive receptors would occur with the implementation of the GPA component of the project.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Mezzanine Addition (Less Than Significant Impact). Heavy-duty equipment on the project site during construction would emit odors, primarily from equipment exhaust. However, the construction activity would cease after construction is completed. No other sources of objectionable odors have been identified for the project.

SCAQMD Rule 402,[8] regarding nuisances states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or*

[8] SCAQMD. 1976. Rule 402. Website: https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf (accessed January 2025)

> *annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

The office uses proposed for the mezzanine are not anticipated to emit any objectionable odors. All existing activities related to EV platform production would continue unchanged. Therefore, the project would not result in other emissions (e.g., those leading to odors) adversely affecting a substantial number of people. Impacts would be **less than significant,** and no mitigation is required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. The GPA would result in emissions such as those leading to odors because the FAR amendment would not result in physical changes to the project site or its vicinity. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to emissions or objectionable odors. **No impact** related to emissions or objectionable odors would occur with the implementation of the GPA component of the project.

5.4 BIOLOGICAL RESOURCES

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

5.4.1 Impact Analysis

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

Mezzanine Addition (No Impact). According to the Garden Grove General Plan 2030 Conservation Element[9], biological resources in Garden Grove are almost non-existent due to the urban nature of the city and the surrounding area. However, parks, vegetated streetscapes, and neighborhoods may support plant life and small animals in Garden Grove. Five federal and/or State-listed species have been reported within 1 mile of the project site, according to California Natural Diversity Database records: western tidal-flat tiger beetle (*Habroscelimorpha gabbii*), Horn's milk-vetch (*Astragalus*

[9] City of Garden Grove. 2008a. *Garden Grove General Plan 2030. Chapter 10 Conservation Element*. May.

hornii var. *hornii*), southern tarplant (*Centromadia parryi* ssp. *Australis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *Coulteri*), and the western yellow bat (*Lasiurus xanthinus*).

As previously stated, the existing environmental conditions are moderately disturbed, and the project would not affect habitat conditions required by these species. Implementation of the project would not have a substantial direct or indirect adverse effect, through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS) because the project proposes a mezzanine within the existing building with no proposed alterations to the exterior of building or associated parking lot. Therefore, **no impact** related to candidate, sensitive, or special-status species, and mitigation is not required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect any species because there are no proposed projects or changes in existing uses under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to candidate, sensitive, or special-status species. **No impact** related to candidate, sensitive, or special-status species would occur with implementation of the GPA component of the project.

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

Mezzanine Addition (No Impact). There are no protected riparian habitats or wetlands located on the project site. The project would not change the existing exterior project site, as a mezzanine is proposed within the existing warehouse building on site. Implementation of the project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or the USFWS. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site. The parcels affected by the GPA are fully developed, and there is no riparian habitat within the parcel boundaries or adjacent to them. Redevelopment on the applicable parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to riparian habitats. **No impact** related to riparian habitats would occur with implementation of the GPA component of the project.

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?

Mezzanine Addition (No Impact). The project site is disturbed and does not contain any wetlands. In addition, the project site does not contain any natural or man-made features that support any aquatic resources, stream-dependent wildlife resources, or riparian habitats, riverine areas, and/or vernal pools. The project would not alter the exterior area of the project site or the surrounding area, as the project proposes a mezzanine within an existing warehouse building. **No impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). As noted above, a GPA is proposed under the proposed project. The parcels affected by the GPA are fully developed, and there is no wetland habitat within the parcel boundaries or adjacent to them. Redevelopment on the applicable parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to wetlands. **No impact** related to wetlands would occur with implementation of the GPA component of the project.

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?

Mezzanine Addition (No Impact). Garden Grove is densely developed with little to no natural biological communities. There are no identified protected wildlife corridors or protected wildlife nursery sites within the city.[10] The project site is bordered by existing development and paved roads that restrict wildlife movement in the project vicinity. The project would not substantially limit wildlife movement, as the project proposes interior improvements to an existing warehouse building. The exterior area of the building and surrounding area would not be altered as a result of the project. Therefore, **no impacts** would occur, and no mitigation is required.

FAR Amendment (No Impact). As previously mentioned, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site. The parcels affected by the GPA are fully developed. Redevelopment on the applicable parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to migratory wildlife corridors. **No impacts** related to migratory wildlife corridors would occur with the implementation of the GPA component of the project.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Mezzanine Addition (No Impact). The Garden Grove General Plan 2030 Conservation Element does not contain any regulations or policies governing biological resources. The Garden Grove Municipal

[10] City of Garden Grove. 2021. *Garden Grove Focused General Plan Update and Zoning Amendments Draft EIR*. August.

Code contains Tree Ordinance Number 522, which addresses the protection, maintenance, removal, and planting of trees in streets, parks, and other public places.[11] In the existing condition, the project site contains non-native, ornamental plants and trees ranging from small bushes to tall trees more than 30 feet tall along the northern property boundary. The project does not propose changes to the existing landscaping on the project site. Landscaping and the parking lot area of the project site would remain unchanged. The project consists of improvements to the interior of the existing warehouse building. Therefore, the project would not conflict with the City's Tree Ordinance or any other local policy or ordinance protecting biological resources. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site. The GPA does not propose physical changes to the project site. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to the City's Tree Ordinance. **No impacts** related to the City's Tree Ordinance would occur with implementation of the GPA component of the project.

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?

Mezzanine Addition (No Impact). The project is in a developed urbanized area of Garden Grove. Additionally, there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or State habitat conservation plan within or that affect the project. Therefore, the project does not result in any conflicts with an adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or State habitat conservation plan. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). Lastly, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site. The parcels affected by the GPA are fully developed, and redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to habitat conservation plans. Therefore, **no impact** would occur with the implementation of the GPA component of the project.

[11] City of Garden Grove. n.d.-a. Public Works. Tree Ordinance. Website: https://ggcity.org/pw/tree-ordinance (accessed December 2024).

5.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

5.5.1 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

and

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries?

Mezzanine Addition (Less Than Significant Impact). Section 15064.5(b) of the State CEQA Guidelines states that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." The project site is currently developed with an approximately 173,000 sf warehouse building that was constructed in 1971 and renovated in 2022. Although the existing warehouse building is over 50 years old, the structure has been previously renovated, including a significant addition in 2019, compromising the integrity of the original structure as a potential historic example. Therefore, the project site is not considered a historical resource, and the proposed mezzanine would be constructed within the existing warehouse building. Given that the project would be confined to the interior of the existing warehouse building, with no alterations to the exterior building or surrounding area, the project would not cause a substantial adverse change to any historical resources.

The proposed mezzanine would not require grading or excavation that would lead to inadvertent discoveries of unique archaeological resources or human remains during ground disturbing activities. Therefore, impacts to historical or archaeological resources pursuant to Section 15064.5 and impacts to human remains would be **less than significant**, and no mitigation is required.

FAR Amendment (No Impact). In addition, under the project, a GPA is proposed to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect any historical resources because the project site and the parcels affected by the GPA are not historical resources. Additionally, the GPA would

not result in physical changes to the project site that would affect archaeological resources or human remains. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to historical or archaeological resources. **No impact** related to historical or archaeological resources would occur with implementation of the GPA component of the project.

5.6 ENERGY

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

5.6.1 Existing Environmental Setting

Southern California Edison (SCE) provides electricity services to the region. SCE provides service to approximately 15 million people throughout a 50,000-square-mile service area within central, coastal, and Southern California. SCE sources its electricity through a mix of renewable and nonrenewable sources. Nonrenewable sources include large hydroelectric, natural gas, and nuclear fuel types while renewable sources include biomass, geothermal, small hydro, solar, and wind fuel types. Nearly half of SCE's electricity is generated through renewable energy sources.

Southern California Gas (SoCalGas) would provide natural gas services to the project site. Natural gas is an energy source derived from fossil fuels and is primarily composed of methane (CH_4).

5.6.2 Impact Analysis

a. Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation?

Mezzanine Addition (Less Than Significant Impact). Implementation of the project would temporarily increase the demand for energy through construction activities and more permanently increase the demand for energy through day-to-day operations. This section discusses energy use resulting from implementation of the project and evaluates whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy resources.

Construction. The project would add 10,338 square feet (sf) of mezzanine (office) space to an existing 173,080 sf warehouse building. The project would increase office space on the second floor, no new office space is planned on the first floor. Construction activities would include interior building construction and architectural coating activities. Construction activities require energy associated with the manufacture and transportation of building materials and building construction. Construction activities also typically require fuel and electricity to power construction-related equipment and do not involve the consumption of natural gas.

Transportation energy represents the largest energy use during construction and would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel, gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks

hauling materials to and from a site would be anticipated to use diesel fuel, whereas construction workers traveling to and from a site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, vehicle miles traveled (VMT), the fuel efficiency of the vehicles, and the travel mode.

Construction emissions were estimated for the project using CalEEMod using the land use type of *General Office Building*. This analysis assumes that construction of the project would begin in May 2025 and end in November 2025.[12] The project would not require the import or export of soil, which was also included in CalEEMod. In addition, this analysis assumes the CalEEMod default average Tier level for certified diesel engines for all construction equipment. Other precise details of construction activities are unknown at this time; therefore, default assumptions (e.g., construction worker and truck trips and construction fleet activities) from CalEEMod were used.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, construction trucks, and construction worker vehicles were based on default construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from EMFAC2021. Fuel consumption estimates are presented in Table 5.E. CalEEMod output sheets and detailed energy calculations are included in Appendix B of this EIR.

Table 5.E: Construction Energy Consumption Estimates

Energy Type	Total Energy Consumption
Gasoline (gallons)	716
Diesel Fuel (gallons)	13,864

Source: Compiled by LSA (January 2025).

As indicated in Table 5.E, the project is estimated to consume 716 gallons of gasoline and 13,864 gallons of diesel fuel during construction. Based on EMFAC2021 data, approximately 432 million gallons of diesel and 3,224 million gallons of gasoline would be consumed from vehicle trips in Orange County in 2025. Therefore, construction of the project would increase the annual construction generated fuel use in Orange County by less than 0.1 percent for gasoline fuel usage and less than 0.1 percent for diesel fuel usage.

As such, construction of the project would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Orange County's overall use of the State's available energy resources. It is not expected that the project construction would include any unusual characteristics that would necessitate the use of equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs. The project would

[12] Should the construction start date be later than the May 2025 date analyzed here, it is assumed that the construction impacts would be less than those analyzed due to technological improvements and efficiencies over time resulting in reduced emissions.

not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction would not be inefficient, wasteful, or unnecessary. Therefore, impacts related to construction of the project would be less than significant, and no mitigation is required.

Operation. Energy use consumed during operation of the project would be associated with electricity used by lighting, equipment, HVAC systems, etc., natural gas consumption used by HVAC systems and water heaters, and gasoline and diesel to fuel project-related vehicle trips. Energy consumption was estimated for the project using default energy intensities by land use type in CalEEMod.

The project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. Fuel use associated with vehicle trips generated by the project was calculated based on the project's trip generation estimates. As described in section 5.17, Transportation, the project would generate approximately 112 average daily trips. The amount of operational fuel use was estimated using CARB's EMFAC2021 model, which provided projections for typical daily fuel usage in Orange County.

Table 5.F shows the estimated potential increased electricity, natural gas, and fuel demand associated with the project.

Table 5.F: Estimated Annual Energy Use for Project Operation

Energy Type	Annual Energy Consumption
Electricity Consumption (kWh/year)	184,226
Natural Gas (therms/ year)	2,621
Diesel Fuel (total gallons)	933
Gasoline (total gallons)	10,696

Source: Compiled by LSA (January 2025).
[1] Kilowatt-hour
[2] 1 therm = 100,000 British Thermal Units (BTU)

The CEC reported that the total electricity demand for Orange County in 2022 was 20,243,721,856 kWh.[13] As shown in Table 5.F, the estimated potential increase in electricity demand associated with the operation of the project is 184,226 kWh per year. Therefore, operation of the project would increase the annual electricity consumption in the County by less than 0.1 percent. As such, the project's share of cumulative electricity consumption would be negligible.

The CEC reported that the total natural gas demand for Orange County in 2022 was approximately 572,454,744 therms.[14] As shown in Table 5.F, the estimated potential increase in natural gas demand associated with the operation of the project is 2,621 therms per year. Therefore, operation

[13] CEC. Electricity Consumption by County. www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed January 2025).
[14] *Ibid*.

of the project would increase the annual natural gas consumption in the County by less than 0.1 percent. As such, the project's share of cumulative electricity consumption would be negligible.

Furthermore, the project would be constructed using energy efficient modern building materials and construction practices, and the project also would use new modern appliances and equipment, in accordance with the Appliance Efficiency Regulations (Title 20, California Code of Regulations (CCR) Sections 1601 through 1608). The expected energy consumption during construction and operation of the project would be consistent with typical usage rates for commercial uses; however, energy consumption is largely a function of personal choice and the physical structure and layout of buildings.

Once operational, the project would consume approximately 10,696 gallons of gasoline and approximately 933 gallons of diesel fuel per year. Based on EMFAC2021 data, approximately 432 million gallons of diesel and 3,224 million gallons of gasoline would be consumed from vehicle trips in Orange County in 2025. As such, project operation would increase the annual gasoline fuel usage in Orange County by less than 0.1 percent and would increase diesel fuel use by less than 0.1 percent. Therefore, the project's share of cumulative fuel consumption would have a negligible effect on local and regional energy supplies.

Electrical, natural gas, gasoline and diesel fuel demand associated with project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the project would not conflict with or obstruct a State plan for renewable energy or energy efficiency. Implementation of the project would be required to adhere to all federal, State, and local requirements for energy efficiency, including the latest Title 24 standards. Impacts are considered **less than significant**, and no mitigation is required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect energy demand because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to energy demand. **No impact** related to energy demand would occur with implementation of the GPA component of the project.

b. Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Mezzanine Addition (Less Than Significant Impact). In 2002, the State Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels for the Integrated Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for ZEVs and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC recently adopted the 2023 Integrated Energy Policy Report.[15] The 2023 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2023 Integrated Energy Policy Report covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecasts, and the California Energy Demand Forecast.

As indicated in response to checklist question 5.5a) above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. In addition, energy usage associated with operation of the project would be relatively small in comparison to the region's available energy sources, and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact on regional energy supplies would be minor, the project would not conflict with or obstruct California's energy conservation plans as described in the CEC's 2023 Integrated Energy Policy Report. This Report identifies the EV transition as a key component of California's energy conservation plans. The project is an additional investment in the future of EVs and EV production in the region. Therefore, the project would not lead to new or substantially more severe energy impacts. Impacts related to a State or local plan for renewable energy or energy efficiency would be **less than significant**, and no mitigation is required.

FAR Amendment (No Impact). The GPA would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to State or local plans for renewable energy or energy efficiency. **No impact** related to a State or local plan for renewable energy or energy efficiency would occur with implementation of the GPA component of the project.

[15] CEC. 2023. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

5.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

5.7.1 Impact Analysis

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Mezzanine Addition (Less Than Significant Impact). The project site is not within an Earthquake Fault Zone as defined by the State of California in the Alquist-Priolo Earthquake Fault Zone Act of 1972. Additionally, based on the 2010 California Geological Survey Fault Activity Map[16], the closest known active faults are the Los Alamitos fault, which is approximately 4.2 miles west of the project site, and the Reservoir Hill fault, which is approximately 5.3 miles southwest of the project site. Thus, there is no evidence of any faults or faulting activity on the project site. The risk of fault

[16] California Geological Survey 2010. *Fault Activity Map of California.* Website: https://maps.conservation.ca.gov/cgs/fam/app/ (accessed December 2024).

rupture beneath the site is low. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. As noted above, the project site and the parcels affected by the GPA are not within an Earthquake Fault Zone nor are they in the vicinity of an active fault. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to fault rupture. **No impact** related to fault rupture would occur with implementation of the GPA component of the project.

ii. Strong seismic ground shaking?

Mezzanine Addition (Less Than Significant Impact). As discussed above, the project site is near active faults, thus making the project site and Garden Grove susceptible to ground shaking. The extent of ground-shaking is dependent upon the size of the earthquake and the geologic material of the underlying area. The San Andreas fault located approximately 42 miles north of Garden Grove has the highest probability of generating significant seismic effects. Additionally, the Newport-Inglewood-Rose Canyon fault, Reservoir Hill fault, and the Los Alamitos faults are likely to cause strong seismic ground shaking within Garden Grove. Construction and development of the project would be required to comply with applicable provisions of the current California Building Code (CBC). Although the project does not include grading activities, the proposed mezzanine would be designed to resist seismic impacts in accordance with CBC requirements. The City would review and approve plans to confirm that the construction of the proposed mezzanine would be in accordance with regulations established in the CBC. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. Impacts involving seismic ground shaking would be **less than significant**. Mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The project site and the other parcels affected by the GPA are all fully developed. Redevelopment on the affected parcels is not reasonably foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to strong seismic ground shaking. Therefore, **no impact** related to strong seismic ground shaking would occur with implementation of the GPA component of the project.

iii. Seismic-related ground failure, including liquefaction?

Mezzanine Addition (Less Than Significant Impact). Liquefaction takes place when loosely packed, water-logged sediments at or near the ground lose their strength in response to strong ground shaking. According to the City General Plan, liquefaction is a particular concern in the City. As described in the General Plan Safety Element, the project site is within a liquefaction zone.[17] The

[17] City of Garden Grove. 2008b. Garden Grove General Plan 2030. *Chapter 11 Safety Element. Exhibit SAF-2*.

General Plan contains policies and implementation programs that acknowledge potential risks of seismic activity and provide seismic risk information including safe practices, emergency facilities, public awareness programs, and seismically safe development and design.[18] In addition to the General Plan policies, the City has adopted the CBC, which includes requirements on building design and construction based on seismic constraints. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. With implementation of General Plan policies and applicable building codes, impacts related to seismic-related ground failure, including liquefaction, would be reduced to **less than significant** and no mitigation is required.

FAR Amendment (No Impact). As discussed above, the project includes a GPA that would increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not directly or indirectly lead to seismic ground failure as the GPA would not result in physical changes to the project site. Additionally, redevelopment on the affected parcels is not reasonably foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to liquefaction. Therefore, **no impact** related to liquefaction would occur with implementation of the GPA component of the project.

iv. Landslides?

Mezzanine Addition (Less Than Significant Impact). The Department of Conservation does not map the project site within a landslide zone. In addition, the proposed mezzanine would not exacerbate landslide risks because the proposed construction would be confined to the interior of an existing warehouse building. The project site is not located in an area with significant slopes that could have the potential for landslide risks. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. Accordingly, the flat topography of the project site ensures the likelihood of landslides is **less than significant**. Mitigation is not required.

FAR Amendment (No Impact). As previously mentioned, the project includes a GPA that would increase the allowable industrial FAR on the project site from 0.5 to 0.55. The project site and the other parcels affected by the GPA are not in an area at risk of landslides. Redevelopment on the affected parcels is not reasonably foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to landslides. Therefore, **no impact** related to landslides would occur with implementation of the GPA component of the project.

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

Mezzanine Addition (No Impact). Garden Grove is characteristically flat and developed. The project consists of the construction of a mezzanine within an existing warehouse building. Therefore, the construction of the mezzanine would not require grading or ground disturbing activities that could result in substantial soil erosion or the loss of topsoil. The project would be constructed in

[18] City of Garden Grove. 2008b. Garden Grove General Plan 2030. *Chapter 11 Safety Element.*

accordance with the recommendations provided in the geotechnical study prepared for the project. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). The GPA component of the project would have **no impact** related to soil erosion or loss of topsoil. The parcels affected by the GPA are all fully developed with well-established businesses. Additionally, redevelopment on the affected parcels is not reasonably foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to soil erosion and topsoil loss. **No impact** related to soil erosion and loss of topsoil would occur with the implementation of GPA component of the project.

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

Mezzanine Addition (Less Than Significant Impact). As discussed above, the project site is within a liquefaction zone. According to the Garden Grove General Plan Update DEIR, the underlying geology within Garden Grove is composed of alluvial deposits. Due to the proximity to local and regional faults such as the Los Alamitos fault and the Newport-Inglewood-Rose-Canyon fault, Garden Grove may experience subsidence, lateral spreading, or collapse during strong seismic events. The City's General Plan Safety Element contains goals, policies, and implementation programs that provide guidance to minimize risk associated with seismic activity and geologic conditions to people and property. In addition to the General Plan, the CBC has guidelines on building design. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. With implementation of the General Plan policies and applicable building codes, impacts related to unstable soils would be **less than significant**. No mitigation is required.

FAR Amendment (No Impact). The GPA component of the project would have **no impact** related to unstable soils because there are no physical changes to the project site proposed with implementation of the GPA. The GPA would not result in unstable soils because there are no changes in existing use, the project site is fully developed, and grading activities are not anticipated. Additionally, redevelopment on the affected parcels is not reasonably foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to unstable soils. **No impact** related to unstable soils would occur with implementation of the GPA component of the project.

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?

Mezzanine Addition (Less Than Significant Impact). Expansive soils generally have a substantial amount of clay particles that can shrink or swell, causing structural damage to building foundations. The project would not create a substantial direct or indirect risk to life or property related to expansive soils because the project would be constructed within an existing warehouse building. The project would not require grading or construction on unstable expansive soils. The project would be constructed in accordance with the recommendations provided in the geotechnical study

prepared for the project. Therefore, **less than significant** impact related to expansive soil would occur, and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The project site and the other parcels affected by the GPA are all fully developed. The GPA would not directly or indirectly risk life or property because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to expansive soils. Therefore, **no impact** related to expansive soils would occur with implementation of the GPA component of the project.

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?

Mezzanine Addition (No Impact). The project consists of the construction of a mezzanine within an existing building. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. The project would not use septic systems or alternative wastewater disposal systems, so there would be **no impact** related to septic system or alternative wastewater disposal systems. Mitigation is not required.

FAR Amendment (No Impact). As discussed above, the project includes a GPA that would increase the allowable FAR on the project site. The GPA does not affect wastewater disposal systems because it would not result in physical changes to the project site or existing use. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to wastewater disposal systems. The implementation of the GPA would have **no impacts** related to soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems.

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

Mezzanine Addition (No Impact). Construction of the proposed mezzanine would not require grading or any ground-disturbing activities, and no unique paleontological or geologic features would be impacted as a result of the project. In addition, the General Plan does not contain any goals, policies, or implementation programs related to paleontological resources because of the low potential for paleontological discovery. The project would be constructed in accordance with the recommendations provided in the geotechnical study prepared for the project. Therefore, **no impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not directly or indirectly destroy a unique paleontological resource or geologic feature as no physical changes to the project site are proposed with the GPA. The other

parcels affected by the proposed GPA are fully developed and redevelopment is not feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to paleontological resources. Therefore, **no impact** related to paleontological resources would occur with implementation of the GPA component of the project.

5.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

5.8.1 Impact Analysis

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

Mezzanine Addition (Less Than Significant Impact). This section describes the project's construction- and operation-related GHG emissions.

Construction Greenhouse Gas Emissions. Construction activities associated with the project would produce combustion emissions from various sources. Construction would emit GHGs through the operation of construction equipment and from worker and builder supply vendor vehicles for the duration of the approximately 7-month construction period. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, the fueling of heavy equipment emits CH_4. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then recommends the construction GHG emissions to be amortized over the life of the project (with 30 years assumed to be representative), added to the operational emissions, and compared to the applicable interim GHG significance threshold tier. Based on the CalEEMod analysis, it is estimated that construction of the project would generate 142 MT CO_2e. When amortized over the 30-year life of the project, annual emissions would be 4.7 MT CO_2e.

Operational Greenhouse Gas Emissions. Long-term operation of the project would generate GHG emissions from area, mobile, waste, and water sources, as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include 112 additional project-generated vehicle trips associated with trips to the project (Appendix A: Air Quality and Greenhouse Gas Technical Memorandum). Area-source emissions would be associated with activities such as continued existing maintenance on the project site and other sources. Waste-source emissions generated by the project include energy generated by landfilling and other methods of disposal related to transporting and managing project-generated waste. Water-source emissions associated with the project are generated by water supply and conveyance, water

treatment, water distribution, and wastewater treatment. In addition, refrigerant emissions result from equipment leaks related to air conditioning and refrigeration.

GHG emissions were estimated using CalEEMod. Table 5.G shows the estimated net operational GHG emissions for the project over existing conditions. Motor vehicle emissions are the largest source of GHG emissions for the project, at approximately 61 percent of the project total. Energy sources are the next largest category, at approximately 34 percent. Waste sources are about 2 percent, water sources are about 3 percent, area and refrigerant make up less than 1 percent of the total emissions combined.

Table 5.G: Greenhouse Gas Emissions

Emission Type	Operational Emissions (MT/yr)					
	CO_2	CH_4	N_2O	Refrigerant	CO_2e	Percentage of Total
Mobile Source	102.1	<0.1	<0.1	0.2	103.7	60.6
Area Source	0.2	<0.1	<0.1	<0.1	0.2	0.1
Energy Source	58.4	<0.1	<0.1	<0.1	58.6	34.3
Water Source	3.6	<0.1	<0.1	<0.1	5.5	3.2
Waste Source	0.9	<0.1	<0.1	<0.1	3.0	1.8
Refrigerant Source				<0.1	<0.1	<0.1
Total Operational Emissions					**171.0**	
Amortized Construction Emissions					4.7	—
Total Annual Emissions					**175.7**	**—**
SCAQMD Threshold					**3,000**	
Exceedance?					**No**	

Source: Compiled by LSA (February 2025).
Note: GHG emissions shown are for the proposed mezzanine addition only; the existing operational GHG emissions are not included. Figures may not appear to add correctly due to rounding.
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MT/yr = metric tons per year
N_2O = nitrous oxide
SCAQMD = South Coast Air Quality Management District

A project would have less than significant GHG emissions if it would result in operational GHG emissions of less than the SCAQMD threshold of 3,000 MT CO_2e/year. Based on the analysis results, the project would generate approximately 176 MT CO_2e/year, which is well below the SCAQMD's 3,000 MT CO_2e/year threshold. Therefore, operation of the project would not generate significant GHG emissions that would have a significant effect on the environment. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect greenhouse gas emissions because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to greenhouse gas emissions. Therefore, **no impact** related to greenhouse gas emissions would occur with implementation of the GPA component of the project.

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

Mezzanine Addition (Less Than Significant Impact). The following discussion evaluates the project according to the goals of the 2022 Scoping Plan and SCAG's 2024–2050 RTP/SCS.

2022 Scoping Plan. EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reduction target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. CARB released the 2017 Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.[19] SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. AB 197, the companion bill to SB 32, provides additional direction to CARB that is related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 that is intended to provide easier public access to air emission data collected by CARB was posted in December 2016. AB 1279 codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter.

In addition, the 2022 Scoping Plan[20] assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

- **Energy-efficient measures** are intended to maximize energy-efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The project would comply with the latest Title 24 standards regarding energy conservation and green building standards. Therefore, the project would comply with applicable energy measures.

- **Water conservation and efficiency measures** are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest Title 24 standards, which include a variety of different

[19] California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

[20] CARB. 2022. *California's 2022 Scoping Plan for Achieving Carbon Neutrality*. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025).

measures, including reduction of wastewater and water use. Therefore, the project would not conflict with any of the water conservation and efficiency measures.

- **Transportation and motor vehicle measures** are intended to develop regional GHG emission reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025. Therefore, the project would not conflict with the identified transportation and motor vehicle measures.

The project would comply with existing State regulations adopted to achieve the overall GHG emission reduction goals identified in the 2022 Scoping Plan, EO B-30-15, SB 32, AB 197, and AB 1279.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy. SCAG's Connect SoCal 2024[21] (Regional Transportation Plan/ Sustainable Communities Strategy [RTP/SCS]) identifies land use strategies that focus on new housing and job growth in areas served by high-quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The core vision in the Connect SoCal 2024 is to better manage the existing transportation system through design management strategies, integrate land use decisions and technological advancements, create complete streets that are safe for all roadway users, preserve the transportation system, and expand transit and foster development in transit-oriented communities. The Connect SoCal 2024 contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as providing a forecast development pattern that is generally consistent with regional-level General Plan data. The forecast development pattern, when integrated with the financially constrained transportation investments identified in the Connect SoCal 2024, would reach the regional target of reducing GHG emissions from automobiles and light-duty trucks by 8 percent by 2020 and 19 percent by 2035 (compared to 2005 levels per capita emission levels). The Connect SoCal 2024 does not require that local General Plans, Specific Plans, or zoning be consistent with the Connect SoCal 2024, but it provides incentives for consistency for governments and developers.

Implementing SCAG's Connect SoCal 2024 will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emissions reduction targets. As demonstrated in the Consistency with Applicable Air Quality Plans section, above, the project does not meet the criteria identified in State CEQA Guidelines Section 15205.b.2 (Projects of Statewide, Regional, or Areawide Significance) for projects of statewide, regional, or area wide significance. As such, the project would not interfere with SCAG's ability to achieve the region's GHG reduction target of 19 percent below 2005 per capita emissions levels by 2035. Furthermore, the project is not regionally significant per State CEQA Guidelines Section 15206 and, as such, it would not conflict with the SCAG Connect SoCal 2024 targets since those targets are applicable on a regional level.

[21] Southern California Association of Governments (SCAG). 2024. Connect SoCal 2024. April. Website: scag.ca.gov/connect-socal (accessed January 2025).

As noted above, the project would include a General Plan Amendment to establish Industrial/Commercial (IC) subareas A and B. Subarea A would maintain a maximum FAR of 0.5 for both Industrial and Commercial uses. Subarea B would allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5 to allow for the planned construction of a 10,338 sf mezzanine that would provide additional office space. As the changes to the operations would be minimal, the project would remain consistent with existing local and regional planning assumptions for the project site. Furthermore, as discussed above, the potential growth associated with the increase in employees at the project site would be within the growth projections included in Connect SoCal 2024. Therefore, it is anticipated that implementation of the project would not interfere with SCAG's ability to implement the regional strategies outlined in the Connect SoCal 2024. The project would generally be consistent with both the 2022 Scoping Plan and the SCAG Connect SoCal 2024. Therefore, impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). In addition, the proposed GPA would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases because there are no proposed projects or changes in existing use under the GPA. Redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time. Although redevelopment of the parcels affected by the proposed GPA is not reasonably feasible or foreseeable, any future development on those parcels would be subject to applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases. **No impact** related to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases would occur with implementation of the GPA component of the project.

5.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☒	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

5.9.1 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?

Mezzanine Addition (Less Than Significant Impact). Construction of the project has the potential to create a hazard to the public or environment through the routine transport, use, and disposal of construction-related hazardous materials such as fuels, oils, solvents, and other materials. These materials are typical materials that are delivered to construction sites. However, due to the limited quantities of these materials to be used by the project, they are not considered hazardous to the public at large. The temporary transport, use, or disposal of fuels, lubricants, paints, and other hazardous materials related to construction would not pose a significant hazard to the public or environment unless the materials were accidently spilled or released into the environment. The transport, use, and storage of hazardous materials during construction and operation will be regulated by the Orange County Fire Authority (OCFA) and the California Occupational Safety and Health Administration. Commercial operations and maintenance on the project site would require relatively small amounts of hazardous materials, such as chemicals associated with heating and cooling systems, fuel for landscape equipment, solvents (including auto body chemicals and paint),

cleaning products, pesticides/fertilizers, and other similar chemicals, such as lithium batteries. Implementation of the project would not substantially change the existing use, nor would it substantially increase the amount of existing hazardous materials onsite. The existing use at the project site includes potentially hazardous materials related to lithium batteries for chassis production. Construction of the mezzanine as identified in the project would not increase the amount of these materials on the site. The project does not represent a change of use nor an increase in hazardous material on the project site.

Worker health and safety is regulated at the federal level by the United States Department of Labor, Occupational Safety and Health Administration. The federal Occupational Safety and Health Act of 1970 authorizes states to establish their own safety and health programs with OSHA approval. The United States Department of Transportation (USDOT) is responsible for enforcement and implementation of federal laws and regulations pertaining to safe storage and transportation of hazardous materials. CFR Title 49 regulates the transportation of hazardous materials, types of hazardous materials defined as hazardous, and the marking of vehicles transporting hazardous materials. Worker health and safety protections in California are regulated by the California Department of Industrial Relations (DIR). The DIR includes the Division of Occupational Safety and Health, which acts to protect workers from safety hazards through its California Occupational Safety and Health Administration (Cal/OSHA) program and provides consultant assistance to employers. California standards for workers dealing with hazardous materials are contained in CCR Title 8 and include practices for all industries (General Industrial Safety Orders), and specific practices for construction and other industries. The routine transport, use, and disposal of hazardous materials at the project site during construction and operation would be performed in accordance with the requirements of CCR Title 8, which would minimize potential health hazards for construction workers, landscapers, maintenance personnel, and residents. As such, impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). In addition, a GPA proposes the establishment of two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect the routine transport, use, or disposal of hazardous materials because there are no proposed projects or changes in existing use under the GPA. Although redevelopment of the parcels affected by the proposed GPA is not reasonably feasible or foreseeable, any future development on those parcels would be subject to extensive federal and State regulations, including, without limitation, OSHA, CFR Title 49, and CCR Title 8. As such, the GPA component of the project would result in **no impact** related to the routine use and transport of hazardous materials, and no mitigation is required.

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?

Mezzanine Addition (Less Than Significant Impact). Any hazardous materials used during construction and operation of the project would be regulated by extensive federal and state regulations including OSHA, CFR Title 49, CCR Title 8 and the Orange County Fire Authority (OCFA) and the Cal/OSHA to ensure impacts from reasonably foreseeable upset and accident conditions

involving the release of hazardous materials into the environment during construction and operation remain **less than significant**. Mitigation is not required.

FAR Amendment (No Impact). The GPA component of the project would not create a significant hazard through upset and accident conditions as the GPA does not result in any physical changes to the subareas within the existing IC land use designation as redevelopment of the parcels affected by the proposed GPA is not reasonably feasible or foreseeable. The use of any hazardous materials on the parcels affected by the GPA would be subject to extensive federal and State regulations, including, without limitation, OCFA and OSHA. Therefore, the implementation of the GPA would have **no impact** related to foreseeable upset and accident conditions involving the release of hazardous materials.

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?

Mezzanine Addition (Less Than Significant Impact). The closest school to the project site is Garden Park Elementary School (6562 Stanford Avenue), 0.6 mile west of the project site. As detailed in response to Checklist Question 5.9(a), the transport, use, and storage of hazardous materials during construction and operation of the project would be regulated by the OCFA and the Cal/OSHA.

Some common hazardous materials (e.g., fuels, lubricants, paints, pesticides, household products) would be used at the project site during construction and operational activities. Operational uses, including use of lithium batteries, would be consistent with existing uses on the project site. Compliance with all applicable federal, State, and local laws for construction and operation of the project would ensure impacts from the emission or handling of hazardous materials within 0.25 mile of an existing or proposed school would remain **less than significant**. Mitigation is not required.

FAR Amendment (No Impact). As discussed above, the GPA component of the project would not emit hazardous emissions, as the GPA does not result in any physical changes to the subareas within the existing IC land use designation as redevelopment of the parcels affected by the proposed GPA is not reasonably feasible or foreseeable. The use and/or emission of hazardous materials, substances, or waste on the parcels affected by the GPA would be subject to extensive federal and State regulations, including, without limitation, OCFA and Cal/OSHA, which would reduce risks to the public. Therefore, the implementation of the GPA would have **no impact** related to hazardous emissions within 0.25 mile of a school.

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

Mezzanine Addition (No Impact). The project site was evaluated via the State Water Resources Control Board (SWRCB) GeoTracker database[22], the California Department of Toxic Substances

[22] State Water Resources Control Board (SWRCB). 2022. *Geotracker Database.* Website: https://geotracker.waterboards.ca.gov/ (accessed December 2024).

Control's (DTSC) EnviroStor database[23], and the Hazardous Waste and Substances Site (Cortese) List[24] for the purposes of identifying recognized environmental conditions (RECs) or historical recognized conditions associated with the project site. The project site is not included on any list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. In addition, no active hazardous materials clean-up sites are located within 1,000 feet of the project site. The project site is not on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. The project would have **no impact** related to development on a hazardous materials release site included on the Cortese List. Mitigation is not required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The project site and the other parcels affected by the proposed GPA are not included on any list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, **no impact** related to hazardous materials release sites included on the Cortese List would occur with implementation of the GPA component of the project.

e. Would the Project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

Mezzanine Addition (Less Than Significant Impact). In 2016, the Orange County Airport Land Use Commission (ALUC) adopted the Airport Environs Land Use Plan (AELUP) for the Joint Forces Training Base (JFTB) Los Alamitos at 11206 Lexington Drive in Los Alamitos, approximately 2 miles west of the project site. The AELUP[25] indicates that western Garden Grove, including the project site, is within the AELUP Planning Area and the JFTB Notification Area.[26] The Garden Grove General Plan Land Use Element contains policies to assure new development would be consistent with the AELUP.[27] The project includes the construction of a mezzanine within an existing warehouse building, which would not result in a safety hazard or excessive noise for people residing or working in the vicinity of the project site. No changes or expansion to the existing building would occur that would conflict with height restrictions identified in the AELUP. Therefore, impacts would be **less than significant,** and no mitigation is required.

FAR Amendment (No Impact). The GPA component of the project would not impact land uses related to the AELUP, because there are no proposed projects or changes in existing use under the GPA. Although redevelopment of the parcels affected by the proposed GPA is not reasonably foreseeable, any potential future land uses on those parcels would be required to comply with the

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23 California Department of Toxic Substances Control (DTSC). 2022. *EnviroStor Database.* Website: https://www.envirostor.dtsc.ca.gov/public/ (accessed December 2024).

24 California Environmental Protection Agency (Cal/EPA). 2020. *Cortese List Data Resources.* Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed December 2024).

25 Orange County Airport Land Use Commission. 2016. *Joint Forces Training Base Los Alamitos AELUP*.

26 Notification Area = Airport Planning Area for JFTB, Los Alamitos. The Federal Aviation Regulation (FAR) Part 77 defines the notification area as a 20,000-foot radius from the nearest point of the nearest runway with its longest runway being more than 3,200 feet in actual length, excluding heliports.

27 City of Garden Grove. 2008c. Garden Grove General Plan 2030. *Chapter 2, Land Use Element.*

City's General Plan policies to ensure those land uses are consistent with the AELUP. Therefore, **no impact** related to an airport land use plan would occur with the implementation of the GPA.

f. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Mezzanine Addition (Less Than Significant Impact). The City of Garden Grove follows the Orange County Operational Area Unified Emergency Operations Plan (EOP)[28] and the City of Garden Grove Local Hazard Mitigation Plan[29] (LHMP). The EOP defines the roles of county agencies in emergency preparedness, emergency response, and hazard mitigation. The City's Local Hazard Mitigation Plan provides guidance to better protect the people and property of the City from effects of hazard events. The City of Garden Grove General Plan Safety Element identifies all major public streets as evacuation routes, including Knott Street and Garden Grove Boulevard, both of which are near the project site.[30] Regional access to the project site is provided by State Route 22 (SR-22), immediately south of the project site, and Knott Street, located immediately east of the project site. In the event of an emergency, employees working at the project site would be able to evacuate the site via Knott Street. The project would not alter the existing site access or circulation design. The project, which includes construction of a mezzanine within an existing warehouse building, would not impair or interfere with the EOP or LHMP. Therefore, impacts related to emergency access would remain **less than significant.** Mitigation is not required.

FAR Amendment (No Impact). The proposed GPA component of the project would increase the allowable industrial FAR on the project site from 0.5 to 0.55; however, it would not result in physical changes to the established subareas because redevelopment of the parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time. Any future development on the parcels affected by the GPA would be subject to the EOP and LHMP. Therefore, **no impact** related to an emergency response or evacuation plan would occur with the implementation of the GPA.

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

Mezzanine Addition (Less Than Significant Impact). The project site is surrounded by urban development and is not within a Very High Fire Hazard Severity Zone (VHFHSZ)[31], so the risk of a wildfire event affecting the site is extremely low. The project would be required to comply with applicable provisions of the California Building Code and California Fire Code, as well as the Garden Grove LHMP mitigation actions related to wildfire.

Prior to final plan check approval, the City of Garden Grove, in coordination with the Orange County Fire Authority, will review the plans for the proposed mezzanine to ensure adequate design features

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28 County of Orange. 2023. Orange County Operational Area Unified Emergency Operations Plan. November.
29 City of Garden Grove. 2020. Garden Grove Local Hazard Mitigation Plan. February.
30 City of Garden Grove. 2008b. Garden Grove General Plan 2030. *Chapter 11 Safety Element.*
31 CAL FIRE. n.d. Fire and Resource Assessment Program (FRAP). Orange County. Very High Fire Hazard Severity Zones in LRA. Website: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps (accessed December 2024).

such as ignition resistant construction, emergency evacuation, and access for first responders are implemented to reduce exposure of people and structures to fire. Through compliance with fire codes and City policies, the project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). Lastly, the GPA component of the project would not result in physical changes to any of the parcels affected by the proposed GPA because the redevelopment of those parcels is not reasonably feasible or foreseeable at this time. Additionally, the project site and affected parcels are fully developed and surrounded for more than a mile in each direction by urban development and are not in a VHFHSZ. Therefore, **no impact** related to wildland fires would occur with the implementation of the GPA.

5.10 HYDROLOGY AND WATER QUALITY

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

5.10.1 Impact Analysis

a. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Mezzanine Addition (No Impact). The California State Water Resources Control Board and nine Regional Water Quality Control Boards regulate the quality of surface water and groundwater bodies throughout California. For Garden Grove, including the project site, the RWQCB is responsible for implementation of the Basin Plan, which establishes water quality standards for the ground and surface waters of the region. Runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the federal Clean Water Act). The NPDES program's objective is to control and reduce pollutant discharges to surface waterbodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES program is administered by the RWQCB and any construction activities, including grading, which would result in the disturbance of one acre or more of land would require compliance with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (Construction General Permit). The project would not result in the disturbance of one acre or more and therefore would not be required to comply with the Construction General Permit.

The project involves the construction of an approximately 10,000 sf mezzanine within an existing warehouse building. During construction, no excavation or grading would occur for the project. Construction activities would remain within the existing building and no water quality degradation would occur as a result of the project. Construction of the project would remain above-ground and would not alter the existing drainage system. Therefore, the project does not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater capacity. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). In addition, a GPA is proposed under the project to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. Any future development on the parcels affected by the proposed GPA would be subject to NPDES requirements and the Construction General Permit. The GPA component of the project would not have impacts related to water quality standards, as the parcels affected by the proposed GPA are fully developed and their redevelopment is not reasonably feasible or foreseeable at this time. **No impact** would occur with implementation of the GPA component of the project.

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

Mezzanine Addition (No Impact). The Garden Grove Water Services Division (GGWSD) supplies water to Garden Grove. According to the Garden Grove 2020 Urban Water Management Plan (UWMP), the City provides water to its residents and customers using a combination of local groundwater from the Orange County Groundwater Basin (OC Basin) and supplemental imported water supply from the Municipal Water District of Orange County (MWDOC).[32] The 2020 UWMP also notes that the City's water supplies are 100 percent reliable to meet demand for normal year, single dry year, and multiple dry year demands from 2025 to 2045.[33] The UWMP estimates water supply and demand based on the land uses in the City. Because the project involves the nominal expansion of an existing land use within Garden Grove, it is already accounted for in the water supply and demand scenarios provided in the UWMP. Water demand associated with commercial/industrial/institutional (CII) is projected to increase by 0.5 percent annual growth between 2025 and 2045.[34] According to California Emissions Estimator Model (CalEEMod) output for the project, the project is anticipated to generate a net increase in water demand of 1,837,411 gallons annually (approximately 5.64 acre-feet). The minor increase in water demand and usage from the project within the existing building falls well within the parameters of Citywide economic growth and water demand anticipated in the UWMP.

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32 City of Garden Grove. 2021. Garden Grove 2020 Urban Water Management Plan. *Executive Summary*. June.

33 City of Garden Grove. 2021. Garden Grove 2020 Urban Water Management Plan. *7.3 Water Service Reliability Assessment*. June.

34 City of Garden Grove. 2021. Garden Grove 2020 Urban Water Management Plan. 4.3 *Water Use Projections.* June.

As noted previously, the project includes the construction of a mezzanine within an existing building. The development of the project would not increase the impervious surface area of the site. The project does not include changes to the existing stormwater recharge design. Under the project, the project site's stormwater drainage system would remain unchanged. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that it impedes sustainable groundwater management of the OC Basin. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). The proposed GPA would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. As noted above, the City is expected to meet water demand for all year demands from 2025 to 2045 based on existing land uses, and redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time. The GPA would not affect groundwater supplies, because there are no proposed projects or changes in existing use under the GPA at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to groundwater supplies. Therefore, the GPA component of the project would have **no impact** related to groundwater supplies.

c. 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 that would: (i) Result in substantial erosion or siltation on or off site; (ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site; (iii) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows?

Mezzanine Addition (No Impact). The project site is developed and is not occupied by a stream or river. The project would not alter the existing drainage pattern of the site because no increase of impervious surfaces is proposed under the project. The project consists of the construction of a mezzanine within an existing building, with no changes to the exterior of the building or project site. According to the most recent Flood Insurance Rate Map,[35] the project site is within Flood Zone X (Other Areas).[36] As discussed above, the project would not alter the existing drainage pattern of the project site. Construction of the project would occur above ground, and within the existing building. Therefore, the project would not result in substantial erosion or siltation on or off site, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site, or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. **No impact** would occur, and mitigation is not required.

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35 Federal Emergency Management Agency. 2009. *National Flood Insurance Program, Flood Insurance Rate Map. City of Garden Grove.*

36 Flood Zone X (other flood areas) correspond to areas between the limits of the 0.2 percent annual chance (500 year) flood and areas of 1 percent annual chance (100 year) flood. No base flood elevations or depths have been determined.

FAR Amendment (No Impact). The project also proposes a GPA to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The other parcels affected by the proposed GPA are all fully developed with no expected changes in use. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time. Any future development on those parcels would be required to comply with construction- and operation-phase stormwater requirements. **No impact** related to the existing drainage pattern would occur with the implementation of the GPA.

d. In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to Project inundation?

Mezzanine Addition (Less Than Significant Impact). The project site is not located within a designated 100-year special flood hazard area. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map 06059C0119J (December 3, 2009), the project site is located within Flood Zone X. According to the Department of Conservation Tsunami Hazard Area Map[37], the project site is not within a California Tsunami Hazard Area. In addition, there are no large bodies of water near the project site. Therefore, seiches and tsunamis are not a concern of the project, and the risk of project inundation is low. Therefore, impacts associated with flood hazards, tsunamis, or seiches, or release of pollutants due to project inundation would be **less than significant.** Mitigation is not required.

FAR Amendment (No Impact). The GPA proposed under the project would increase the allowable industrial FAR on the project site from 0.5 to 0.55. The project site and other parcels affected by the proposed GPA are not within a designated 100-year special flood hazard area or tsunami hazard area, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to project inundation in flood hazard, tsunami, or seiche zones. Therefore, the GPA component of the project would have **no impact** related to project inundation in flood hazard, tsunami, or seiche zones.

e. Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Mezzanine Addition (Less Than Significant Impact). The project would not substantially contribute to groundwater depletion, nor would it interfere with groundwater recharge. The project does not propose changes to groundwater, including direct additions or withdrawals. Furthermore, construction proposed by the project would remain within the existing building, above ground, resulting in no impairment or alteration in direction or rate of groundwater flow. Since the project would not inhibit groundwater recharge potential, and the GGWSD determined the project has adequate water supply to meet demands through the year 2045 under normal year, single dry year, and multiple dry year conditions, the project would not conflict with any applicable water quality control plan or sustainable groundwater management plan. Impacts would be **less than significant**, and mitigation is not required.

[37] California Department of Conservation. 2022. Orange County Tsunami Hazard Areas Map. Website: https://www.conservation.ca.gov/cgs/tsunami/maps/orange (accessed January 2025)

FAR Amendment (No Impact). As discussed above, the GPA component of the project would not result in physical changes to the project site or any of the other parcels affected by the proposed GPA. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time. Any future development of the other parcels affected by the GPA is expected to be within the water supply demand of GGWSD, which expects to have adequate water supply to meet demands through year 2045 for existing and planned land uses. Therefore, the GPA would not conflict with implementation of a water quality control plan. **No impact** related to implementation of a water quality control plan or sustainable groundwater management plan would occur with implementation of the GPA component of the project.

5.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

5.11.1 Impact Analysis

a. Would the Project physically divide an established community?

Mezzanine Addition (No Impact). The physical division of an established community typically refers to the construction of a physical feature (such as an interstate or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying area. For instance, the construction of an interstate highway or railroad track through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair the travel to areas outside the community.

The project does not include the installation of infrastructure or roadways that would divide an existing community or separate existing residential uses from other residential or commercial uses. The project would consist of construction of a mezzanine within an existing building and would not alter the existing setting of the surrounding area. Therefore, **no impact** related to the division of established community would result from development of the project. Mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA does not result in any physical changes to the subareas within the existing IC land use designation, as there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to established communities. Therefore, **no impact** related to an established community would occur with implementation of the GPA component of the project.

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?

Mezzanine Addition (No Impact). The City of Garden Grove General Plan land use designation for the project site is IC. This designation allows for uses including, but not limited to, manufacturing, light manufacturing, food products, compounding, and laboratory uses. The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space

would increase the FAR to 0.53. In order for the project site to remain in compliance with the General Plan Land Use designation and associated maximum FAR, an Amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. With implementation of the GPA, the project would be consistent with the General Plan Land Use policies and requirements of the City's Zoning Code. It should also be noted that the project would facilitate the expansion of an existing business in Garden Grove, which is generally consistent with the goals and policies outlined in the Economic Development Element of the City's General Plan. Therefore, the project would result in **no impact** related to potential conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA does not result in any physical changes to the subareas within the existing IC land use designation as there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to established communities. Therefore, **no impact** related to an established community would occur with implementation of the GPA component of the project.

5.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

5.12.1 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?

Mezzanine Addition (No Impact). In 1975, the California Legislature enacted the Surface Mining and Reclamation Act, which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- MRZ-1: An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: An area containing mineral deposits, the significance of which cannot be evaluated.
- MRZ-4: An area where available information is inadequate for assignment to any other MRZ.

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the Mining and Geology Board as being “regionally significant” (California Surface Mining and Reclamation Policies and Procedures 2000). Such designations require that a Lead Agency’s land use decisions involving designated areas be made in accordance with its mineral resource management policies and that it considers the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency’s jurisdiction.

No known mineral resources exist within the City.[38] Implementation of the project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State. Therefore, **no impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. No known mineral resources exist in the vicinity of the project site or the other parcels that would be affected by the proposed GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to known mineral resources. Therefore, the GPA component of the project would have **no impact** related to known mineral resources.

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?

Mezzanine Addition (No Impact). According to the City General Plan 2030 Conservation Element, no known mineral resource recovery sites exist within the City. Therefore, the project would not 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. Therefore, **no impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). In addition, under the project, a GPA is proposed to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to locally-important mineral resource recovery sites. The GPA component of the project would have **no impact** related to locally-important mineral resource recovery sites as there are no known sites within the vicinity of the project site and the other parcels that would be affected by the proposed GPA.

38 City of Garden Grove. 2021. *Garden Grove Focused General Plan Update Draft Initial Study*.

5.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project result in:				
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?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

The information and analysis in this section is based, in part, on the *Noise and Vibration Impact Analysis for the Warehouse project at 12821 Knott Street* LSA Associates, Inc. prepared on January 17, 2025 (Appendix B).

5.13.1 Impact Analysis

a. Would the Project result in 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?

Mezzanine Addition (Less Than Significant Impact). The following describes how short-term construction and long-term operation noise impacts of the project would be less than significant, according to the standards set forth in the City's General Plan Noise Element.

Short-Term Construction Noise Impacts. Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site and would incrementally raise noise levels on roadways leading to the site. The pieces of construction equipment for construction activities would move on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the vicinity of the project site. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 84 A-weighted decibels [dBA]), the effect on longer-term ambient noise levels would be small because the number of daily construction-related vehicle trips is small compared to the existing daily traffic volume on Knott Street. The building construction and architectural coating phase are the only phases of construction for this project and would overlap, which would have an acoustical equivalent traffic volume of 90 passenger car equivalent based on the California Emissions Estimator Model (CalEEMod) (Version 2022.1) results contained in Attachment B of the *Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott*

Street Project.[39] Knott Street and Garden Grove Boulevard would be used to access the project site, and the existing average daily traffic (ADT) volumes are 33,000 and 17,000, respectively, based on the 2024 Traffic Flow Map (OCTA 2024). Based on the information above, construction-related traffic would increase noise by up to 0.02 dBA. A noise level increase of less than 1 dBA would not be perceptible to the human ear. Therefore, short-term construction-related noise impacts associated with worker commutes and equipment transport to the project site would be **less than significant**. No mitigation measures are required.

The second type of short-term noise impact is related noise generated from construction activities. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. The project anticipates only building construction and architectural coating phases of construction. These various sequential phases change the character of the noise generated on a project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 5.H lists the L_{max} recommended for noise impact assessments for typical construction equipment included in the Federal Highway Administration (FHWA) Highway Construction Noise Handbook (2006), based on a distance of 50 ft between the equipment and a noise receptor.

Table 5.I lists the anticipated construction equipment for each construction phase based on the CalEEMod (Version 2022.1) results contained in Attachment B of the *Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project* (LSA 2025a). Table 5.I shows the combined noise level at 50 ft from all of the equipment in each phase and the L_{eq} noise level for each equipment type at 50 ft based on the quantity, reference instantaneous maximum (L_{max}) noise level at 50 ft, and acoustical usage factor. Although the construction of the project would be primarily inside the existing warehouse building, the anticipated construction equipment would operate at the exterior of the existing warehouse building at the west side of the project site, approximately 100 feet from the nearest residential receptor property line, near the existing truck loading dock. As shown in Table 5.I, construction noise levels would reach up to 85.1 L_{eq} at a distance of 50 ft.

The closest residential property line is approximately 100 ft from where construction equipment would operate near the existing warehouse building and may be subject to short-term construction noise reaching **79.1 dBA L_{eq}** generated by construction activities on the project site. Construction noise is temporary and would stop once project construction is completed. Project construction activities shall be limited to between the hours of 7:00 a.m. and 10:00 p.m. as specified in Section 8.47.060(D) of the City's Municipal Code and would ensure construction-related noise would not be generated during the more sensitive nighttime hours. Furthermore, construction-related noise levels would be below the FTA noise level standard of 80 dBA L_{eq} for residential uses. Therefore, noise levels generated from project construction would be **less than significant**. No mitigation measures are required.

[39] LSA Associates, Inc. 2025a. *Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project*.

Table 5.H: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)[1]	Maximum Noise Level (L_{max}) at 50 ft[2]
Backhoes	40	80
Compactor (ground)	20	80
Compressor (air)	40	80
Concrete Mixer Truck	40	85
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Manlift (Forklift)	20	85
Front-end Loaders	40	80
Generator	50	82
Graders	40	85
Jackhammers	20	85
Pavement Scarifier	20	85
Paver	50	77
Pickup Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder/Torch	40	73

Source: Table 1, *FHWA Roadway Construction Noise Model User's Guide* (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.
[2] Maximum noise levels were developed based on Specification 721.560 from the Central Artery/Tunnel program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
FHWA = Federal Highway Administration
L_{max} = maximum instantaneous sound level
ft = foot/feet

Table 5.I: Summary of Construction Phase, Equipment, and Noise Levels

Construction Phase	Construction Equipment	Quantity	Reference Noise Level at 50 ft (dBA L_{max})	Acoustical Usage Factor[1] (%)	Noise Level at 50 ft (dBA L_{eq})	Combined Noise Level at 50 ft (dBA L_{eq})
Building Construction	Forklifts	2	85	20	81.0	85.1
	Backhoe	2	80	40	79.0	
	Front-End Loaders	3	80	40	80.8	
Architectural Coating	Air Compressors	1	80	40	76.0	76.0

Source: Compiled by LSA (2025).
[1] The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment operates at full power.
dBA = A-weighted decibel(s)
L_{eq} = equivalent continuous sound level
ft = foot/feet
L_{max} = maximum instantaneous noise level

Long-Term Traffic Noise Impacts. The project is estimated to generate a net new ADT volume of 112, which would consist of automobiles from the additional office space based on the *Transportation Memorandum for the 12821 Knott Street Project* (LSA 2025b). The existing ADT volumes of 33,000 and 17,000 along Knott Street and Garden Grove Boulevard in the vicinity of the project site, respectively, were obtained from the 2024 Traffic Flow Map (OCTA 2024). It takes a doubling of traffic to increase traffic noise levels by 3 dBA. Based on the information above, project-related traffic on Knott Street and Garden Grove Boulevard would increase traffic noise levels by up to 0.03 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be **less than significant**. No mitigation measures are required.

Long-Term Stationary Source Noise Impacts. Operations of the project would include truck delivery and truck loading and unloading activities, parking lot activities; and heating, ventilation, and air conditioning (HVAC) equipment. The following provides a detailed noise analysis, discussion of each stationary noise source, and the potential operational noise increase:

- **Truck Delivery and Truck Loading and Unloading Activities:** Truck delivery and truck unloading activities would occur at the west side of the existing warehouse building during the hours of operation from 8:00 a.m. to 6:00 p.m., which is the same as the existing condition. Also, the number of trucks and the intensity of truck unloading activities would remain the same because the existing warehouse capacity would remain the same as the existing warehouse under the project. Given this, noise generated from truck delivery and truck unloading activities would be similar to the existing condition, and a project-related noise increase is not anticipated. Therefore, noise generated from truck delivery and truck unloading activities would be less than significant. No mitigation measures are required.

- **Parking Activities:** The project would not modify the existing parking lot because the existing 198 parking spaces is more than the required parking spaces under the existing and proposed warehouse project. The required number of parking spaces under the existing and proposed project is 173 and 183 parking spaces, respectively. Based on the increase of required parking spaces, the increase in parking activities and associated noise would be minimal because the increase in parking activities would not double. As described above, it takes a doubling of sound energy to increase noise levels by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, noise generated from parking activities on the project site would be less than significant. No mitigation measures are required.

- **Heating, Ventilation, and Air Conditioning Noise:** The existing warehouse building has approximately 12 rooftop HVAC units based on an aerial photo survey. The project may include additional rooftop HVAC equipment for the proposed mezzanine office space. The additional HVAC equipment would operate during the hours of operation from 8:00 a.m. to 6:00 p.m. along with the existing rooftop HVAC equipment. Also, it is assumed that the number of additional rooftop HVAC units, if any, would be minimal. It takes a doubling of sound energy to increase noise levels by 3 dBA. A noise level increase of less than 3 dBA would not be

perceptible to the human ear in an outdoor environment. Therefore, noise generated from the additional HVAC equipment would be less than significant. No mitigation measures are required.

In summary, the project would not result in the 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. Through compliance with the City's Municipal Code pertaining to noise, no substantial temporary or permanent increase in ambient noise levels in the vicinity of the project site in excess of applicable standards would occur. With no impacts resulting from short-term and long-term ambient noise, impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not result in generation of a substantial temporary or permanent increase in ambient noise levels because the proposed GPA does not include any changes in land uses. In addition, redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to ambient noise. Therefore, **no impact** would occur with implementation of the GPA component of the project.

b. Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Mezzanine Addition (Less Than Significant Impact). Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 vibration velocity decibels (VdB) or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) from the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (see the Federal Transit Administration's [FTA] 2018 Transit Noise and Vibration Impact Assessment Manual). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, both construction of a project and freight

train operations on railroad tracks could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path will usually be greater than ground-borne noise. Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause cosmetic building damage, it is not uncommon for heavy duty construction processes (e.g., blasting and pile driving) to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$Lv = 20 \log10 [V/Vref]$$

where "L_v" is the VdB, "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or 1×10^{-6} inches/second (in/sec) used in the United States.

Short-Term Construction Vibration Impacts. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in RMS (VdB) and assesses the potential for building damage using vibration levels in PPV (in/sec). Vibration levels calculated in RMS velocity are best for characterizing human response to building vibration, whereas vibration levels in PPV are best for characterizing damage potential.

Table 5.J shows the reference vibration levels at a distance of 25 ft for each type of standard construction equipment from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Project construction is expected to require the use of loaded trucks, which would generate ground-borne vibration levels of up to 0.076 PPV (in/sec) when measured at 25 ft. Jackhammers, bulldozers, and other vibration-generating construction equipment would not be used because the project primarily consists of the addition of an approximately 10,000 sf mezzanine within an existing warehouse building as described above.

Table 5.J: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV (in/sec) at 25 ft
Pile Driver (Impact), Typical	0.644
Pile Driver (Sonic), Typical	0.170
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks[1]	**0.076**
Jackhammer	0.035
Small Bulldozer	0.003

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] The equipment shown in **bold** is expected to be used on site.
ft = foot/feet
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project site boundary (assuming the construction equipment would be used at or near the project site boundary) because vibration impacts normally occur within the buildings.

The formula for vibration transmission is provided below:

$$L_v dB\ (D) = L_v dB\ (25\ ft) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Table 5.K lists the projected vibration levels from loaded trucks on the project site to the nearest buildings in the project vicinity. Areas where loaded trucks would operate on the project site include the truck loading dock area west of the warehouse building and on-site access routes north and south of the warehouse building leading to the loading dock area. As shown in Table 5.K, the closest receptors are residential buildings approximately 80 ft away and would experience a vibration level of up to 71 VdB. This vibration level would not have the potential to result in community annoyance because vibration levels would not exceed the FTA community annoyance threshold of 78 VdB for daytime residences. Other building structures that surround the project site would experience lower vibration levels because they are farther away.

Table 5.K: Potential Construction Vibration Annoyance

Land Use	Direction	Equipment/ Activity	Reference Vibration Level (VdB) at 25 ft	Distance to Structure (ft)[1]	Vibration Level (VdB)
Commercial	North	Loaded trucks	86	125	65
Industrial	East	Loaded trucks	86	170	61
Office	Southeast	Loaded trucks	86	145	63
Residential	West	Loaded trucks	86	80	71

Source: Compiled by LSA (2025).
Note: The FTA threshold perception is 65 VdB.
[1] Distance from where loaded trucks operate on the project site to the nearest receptor.
ft = foot/feet
VdB = vibration velocity decibel(s)
FTA = Federal Transit Administration

Table 5.L lists the projected vibration levels from loaded trucks on the project site at the project construction boundary to the nearest buildings in the project vicinity. As shown in Table 5.L, the closest buildings from the project site's property line are residential buildings approximately 15 ft away and would experience a vibration level of up to 0.164 PPV (in/sec). This vibration level would not have the potential to result in building damage because these residential buildings are conservatively assumed to have been built using nonengineered timber and/or masonry construction, and the anticipated project-related vibration levels would not exceed the FTA vibration damage threshold of 0.20 PPV (in/sec). Other building structures that surround the project site would experience lower vibration levels because they are farther away and are also conservatively assumed to have been built using nonengineered timber and/or masonry construction. Therefore, construction vibration impacts during project construction would be less than significant. No mitigation measures are required.

Table 5.L: Potential Construction Vibration Damage

Land Use	Direction	Equipment/Activity	Reference Vibration Level at 25 ft	Distance to Structure (ft)[1]	Vibration Level
			PPV (in/sec)		PPV (in/sec)
Commercial	North	Loaded trucks	0.076	100	0.010
Industrial	East	Loaded trucks	0.076	130	0.006
Office	Southeast	Loaded trucks	0.076	100	0.010
Residential	West	Loaded trucks	0.076	15	0.164

Source: Compiled by LSA (2025).
Note: The FTA-recommended building damage threshold is 0.20 PPV (in/sec) at the receiving nonengineered timber and masonry building.
[1] Distance from the project construction boundary to the building.
ft = foot/feet
in/sec = inches per second
FTA = Federal Transit Administration
PPV = peak particle velocity

Long-Term Vibration Impacts (Operations). The project would not generate vibration. In addition, vibration levels generated from project-related traffic on the roadways (Knott Street and Garden Grove Boulevard) leading to the project site are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Vibration generated from operations of the project would be minimal to negligible. Therefore, vibration impacts from project-related operations would be **less than significant.** No mitigation measures are required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The proposed GPA would not result in generation of excessive groundborne vibration or groundborne noise levels because there are no proposed projects or changes in existing use under the GPA. Redevelopment of the other parcels affected by the GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to generation of excessive groundborne vibration or groundborne noise levels. **No impact** related to generation of excessive groundborne vibration or groundborne noise levels would occur with implementation of the GPA component of the project.

c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Mezzanine Addition (No Impact). The closest airport to the project site is JFTB Los Alamitos, which is 2 miles northwest of the project site. Based on the Airport Environs Land Use Plan for Joint Forces Training Base Los Alamitos (ALUC 2017), the project site is well beyond the 60 dBA CNEL noise contour. Also, there are no private airstrips within 2 miles of the project site. Therefore, the project would not expose people working in the project vicinity to aviation-related excessive noise levels, and this topic is not further discussed. **No Impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the

project site from 0.5 to 0.55. The GPA would not expose people residing or working in the project area to excessive noise levels because there are no proposed projects or changes in existing use under the GPA. Redevelopment of the other parcels affected by the GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to exposure to excessive noise levels. **No impact** related to exposure to excessive noise levels would occur with implementation of the GPA component of the project.

5.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

5.14.1 Impact Analysis

a. Would the Project 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)?

Mezzanine Addition (Less Than Significant Impact). The project is an industrial/commercial mixed-use development consisting of the construction of an approximate 10,338 sf of mezzanine office space within an existing 173,000 sf warehouse building. Since the project is not proposing residential uses, there would be no new generation of residents in Garden Grove. The project may generate an additional 10 to 15 employees, which represents a negligible increase to the total population of the City. In addition, the number of employees is limited by the capacity of parking lot spaces which would not change under the project. As such, implementation of the project is consistent with planned growth within Garden Grove, and the project would not directly or indirectly induce growth in the City. Impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). In addition, under the project, a GPA is proposed to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not induce substantial unplanned population growth because there are no proposed projects or changes in existing use under the GPA. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to substantial unplanned population growth. **No impact** related to substantial unplanned population growth would occur with implementation of the GPA component of the project.

b. Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Mezzanine Addition (No Impact). The project site involves the construction of a mezzanine within an existing warehouse building. The project would not displace substantial numbers of existing

people or housing, necessitating the construction of replacement housing elsewhere. **No impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). As discussed above, the proposed GPA would increase the allowable industrial FAR on the project site. None of the other parcels affected by the proposed GPA contain housing units and their redevelopment is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to housing displacement. Therefore, the GPA component of the project would not displace people or housing, and **no impact** would occur.

5.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a. 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:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

5.15.1 Impact Analysis

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: (i) Fire protection? (ii) Police protection? (iii) Schools? (iv) Parks? (v) Other public facilities?

i. Fire Protection.

Mezzanine Addition (Less Than Significant Impact). The Orange County Fire Authority (OCFA) provides fire and emergency medical services to the City of Garden Grove with seven fire stations throughout the City. OCFA Fire Station 85, located at 12751 Western Avenue, approximately 0.40 miles east of the project site, is the nearest fire station to the project site.[40] The project site is already served by OCFA, and the project would introduce an additional 10 to 15 employees. The proposed mezzanine would provide additional office space for employees and would not increase manufacturing operations on the project site. Thus, the project would not increase fire risk on the project site. The additional employees represent a negligible increase in OCFA's service capacity. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or expanded fire facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance standards. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). The GPA component of the project would not result in physical changes that would impact fire protection services. The GPA would increase the allowable industrial

[40] City of Garden Grove. n.d.-b. Garden Grove Fire Station Locations. https://ggcity.org/orange-county-fire-authority/garden-grove-fire-station-locations (accessed December 2024)

FAR on the project site from 0.5 to 0.55. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time. Any future development on the parcels affected by the proposed GPA would be within OCFA's service capacity. Therefore, **no impact** to fire protection services would occur with the implementation of the GPA component of the project.

ii. Police Protection

Mezzanine Addition (Less Than Significant Impact). The Garden Grove Police Department (GGPD), located at 11301 Acacia Parkway provides police protection services throughout the City. The GGPD is approximately 5.3 miles east of the project site. The project would construct a mezzanine within an existing warehouse building to provide office space for an additional 10 to 15 employees. The increase in employees represents a negligible increase in the GGPD's service capacity. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or expanded police facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance standards. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). As discussed above, the GPA component of the project would not result in physical changes that would impact police protection services. The GPA would increase the allowable industrial FAR on the project site from 0.5 to 0.55. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time. Any future development on the other parcels affected by the proposed GPA would be within the service capacity of GGPD. Therefore, **no impact** to police protection services would occur with the implementation of the GPA component of the project.

iii. Schools

Mezzanine Addition (Less Than Significant Impact). The project site proposes the modest expansion of an existing industrial business and does not provide any residential uses that would substantially increase Garden Grove's population. The City is served by the Garden Grove Unified School District, which serves nearly 39,000 students.[41] The closest school to the project site is Garden Park Elementary School, 0.6 mile west of the project site. The project proposes the construction of a mezzanine within an existing building, which would not result in substantial adverse physical impacts associated with the provision of new or expanded school facilities, the construction of which could cause significant environmental impacts. Impacts would be **less than significant,** and mitigation is not required.

FAR Amendment (No Impact). The GPA proposed under the project would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. Residential uses would not be allowed on the project site or any of the parcels affected by the proposed GPA. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would

[41] Garden Grove Unified School District. *District Overview. About Us.* Website: https://www.ggusd.us/district/about-us (accessed December 2024)

be subject to applicable plans, policies, or regulations related to schools. Therefore, the GPA component of the project would have **no impact** on schools.

iv. Parks.

Mezzanine Addition (Less Than Significant Impact). See Section 5.16, Recreation, for analysis on parks. Impacts were found to be less than significant.

FAR Amendment. No Impact. As discussed above, the GPA component of the project would not result in physical changes that would impact police protection services. The GPA would increase the allowable industrial FAR on the project site from 0.5 to 0.55. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time. Any future development on the other parcels affected by the proposed GPA would not affect any existing or foreseeable future park facilities in the City. Therefore, **no impact** to parks would occur with the implementation of the GPA component of the project.

v. Other Public Facilities.

Mezzanine Addition (Less Than Significant Impact). Development of the project would not substantially increase demand for other public services, including libraries, community centers, and public healthcare facilities, since the project involves the modest expansion of an existing industrial business and would not include the development of new residential uses that could result in demand for public facilities.

As detailed in Section 5.14, the project would not include substantial population growth in Garden Grove or the region, as the project is consistent with the existing capacity of the warehouse building. The increase in land use or development intensity is negligible and no potential cumulative overburdening of other public facilities is expected to occur. Impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). The GPA proposed under the project would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. Redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable; therefore, no changes in development intensity and the corresponding demand for public services are expected on those parcels. Therefore, the GPA component of the project would have **no impact** on public facilities in the City.

5.16 RECREATION

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

5.16.1 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?

or

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?

Mezzanine Addition (Less Than Significant Impact). The project involves the modest expansion of an existing industrial use through the construction of an approximately 10,338 sf mezzanine providing additional office space within an existing 173,000 sf warehouse building. Since the project is not proposing residential uses, the project would not add residents to the City that would result in the need to construct or expand recreational facilities. Although the project may generate an additional 10 to 15 employees who may increase the use of parks/recreational facilities, this increase would be negligible. No substantial physical deterioration of the neighborhood or regional parks would occur or be accelerated. Impacts are **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). As previously mentioned, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not affect recreational facilities because there are no proposed projects or changes in existing use under the GPA. Redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, any future development on those parcels would be unlikely to result in a substantial population growth that would increase use of parks and cause physical deterioration. **No impact** related to recreational facilities would occur with implementation of the GPA component of the project.

5.17 TRANSPORTATION

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

The discussion and analysis below are based on the *Transportation Memorandum for the 12821 Knott Street Project* (Appendix C) prepared by LSA Associates, Inc. and dated January 20, 2025.

5.17.1 Impact Analysis

a. Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Mezzanine Addition (Less Than Significant Impact). To assess the impact of the project on the surrounding circulation system, LSA calculated the existing and proposed project's potential trip generation.

The project would add 10,338 sf of mezzanine (office) space to the existing warehouse building, increasing the total office area to 38,247 sf. The potential trip generation for the project was developed using rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) for Land Use 710 – "General Office Building." Table A (provided in Attachment B of Appendix C) presents the project's potential trip generation.

Trip generation for the existing and proposed uses were developed using rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) for Land Use 150 – "Warehousing, Setting/Location: General Urban/Suburban" and Land Use 710 – "General Office Building, Setting/Location: General Urban/Suburban." Truck percentages for the warehousing use were obtained from the South Coast Air Quality Management District (SCAQMD) as recommended for warehousing uses. Based on the Warehouse Truck Trip Study Data Results and Usage,[42] 31 percent of the trips are trucks. The 31 percent truck mix was 6.8 percent 2-axle, 5.5 percent 3-axle, and 18.7 percent 4-axle or more. The truck trips were converted to passenger car equivalents (PCEs) as a conservative analysis using the following factors: 1.0 for cars, 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4-axle or more trucks. PCE trips are typically examined for LOS purposes and

[42] South Coast Air Quality Management District. 2014. *Warehouse Truck Trip Study Data Results and Usage*. July.

trucks' influence on level of delay. Table 5.M, below, summarizes the total existing net PCE trip generation, the total automobile trip generation, and the net truck trip PCE generation for the existing use.

Table 5.M: Project Trip Generation

Land Use	Size	Unit	PCE[3]	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Rates[1,2]										
Warehousing (cars)		tsf		1.180	0.089	0.028	0.117	0.035	0.089	0.124
Warehousing (2-axle trucks)		tsf		0.116	0.009	0.003	0.012	0.003	0.009	0.012
Warehousing (3-axle trucks)		tsf		0.094	0.007	0.002	0.009	0.003	0.007	0.010
Warehousing (4-axle trucks)		tsf		0.320	0.025	0.007	0.032	0.009	0.025	0.034
Warehousing (total)		tsf		1.710	0.130	0.040	0.170	0.050	0.130	0.180
Office		tsf		10.840	1.340	0.180	1.520	0.240	1.200	1.440
Existing Trip Generation (in PCEs)										
Warehousing (cars)		tsf	1.0	171	13	4	17	5	13	18
Warehousing (2-axle trucks)		tsf	1.5	25	2	1	3	1	2	3
Warehousing (3-axle trucks)		tsf	2.0	27	2	1	3	1	2	3
Warehousing (trucks)		tsf	3.0	139	11	3	14	4	11	15
Warehousing (Truck Sum)		tsf	-	191	15	5	20	6	15	21
Warehousing Total (Cars+Trucks)	145.171	tsf	-	362	28	9	37	11	28	39
Office	27.909	tsf	1.0	303	37	5	42	7	33	40
Total	**173.080**	**tsf**	**-**	**665**	**65**	**14**	**79**	**18**	**61**	**79**
Project Trip Generation (in PCEs)										
Warehousing (cars)		tsf	1.0	171	13	4	17	5	13	18
Warehousing (2-axle trucks)		tsf	1.5	25	2	1	3	1	2	3
Warehousing (3-axle trucks)		tsf	2.0	27	2	1	3	1	2	3
Warehousing (4-axle trucks)		tsf	3.0	139	11	3	14	4	11	15
Warehousing (Truck Sum)		tsf	-	191	15	5	20	6	15	21
Warehousing Total (Cars+Trucks)	145.171	tsf	-	362	28	9	37	11	28	39
Office[4]	38.247	tsf	1.0	415	51	7	58	9	45	54
Total	**183.418**	**tsf**	**-**	**777**	**79**	**16**	**95**	**20**	**73**	**93**
Net Trip Generation (Project - Existing)				**112**	**14**	**2**	**16**	**2**	**12**	**14**

1 Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition (2021).
Land Use Code 150 - Warehousing, Setting/Location: General Urban/Suburban
Land Use Code 710 - General Office Building, Setting/Location: General Urban/Suburban

2 Trips were converted to passenger vehicles and trucks based on the South Coast Air Quality Management District (SCAQMD) requirements for warehouse projects. Based on the *Warehouse Truck Trip Study Data Results and Usage* (SCAQMD, July 2014), 31% of the trips are trucks. The 31% truck mix was 6.8% 2-axle, 5.5% 3-axle, and 18.7% 4-axle or more.

3 Trips were converted to PCEs using the following factors: 1.0 for cars, 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4-axle or more trucks.

4 The addition of 10,338 sf office use (mezzanine space), increasing the total office area to 38,247 sf.

PCE = passenger car equivalent
tsf = thousand square feet (or thousand-square-foot)

As shown on Table 5.M, the existing warehouse use is estimated to generate 37 PCE trips in the a.m. peak hour, 39 PCE trips in the p.m. peak hour, and 362 daily PCE trips. This includes 17 automobile trips in the a.m. peak hour, 18 automobile trips in the p.m. peak hour, and 171 daily automobile trips. Truck PCE trips are estimated to represent 20 trips in the a.m. peak hour, 21 trips in the p.m. peak hour, and 191 daily trips.

The existing office use is estimated to generate 42 automobile trips in the a.m. peak hour, 40 automobile trips in the p.m. peak hour, and 303 daily automobile trips. The summed total of the existing uses is estimated to generate 79 PCE trips in the a.m. peak hour, 79 PCE trips in the p.m. peak hour, and 665 daily PCE trips. This includes 59 automobile trips in the a.m. peak hour, 58 automobile trips in the p.m. peak hour, and 474 daily automobile trips. Truck PCE trips are estimated to represent 20 trips in the a.m. peak hour, 21 trips in the p.m. peak hour, and 191 daily trips.

The project would add 10,338 sf of mezzanine (office) space to the existing warehouse building, increasing the total office area to 38,247 sf and the total building area to 183,418 sf.

Table 5.M also presents the project's potential trip generation. The increased office space would generate 58 trips during the a.m. peak hour, 54 trips during the p.m. peak hour and 415 daily trips. With the warehousing use unchanged (362 daily PCE trips, 37 a.m. peak-hour trips, and 39 p.m. peak-hour trips of which Truck PCE trips represent 20 trips in the a.m. peak hour, 21 trips in the p.m. peak hour, and 191 daily trips), the entire site (183,418 sf) is estimated to generate 95 PCE trips in the a.m. peak hour, 93 PCE trips in the p.m. peak hour and 777 daily PCE trips. As shown in Table 5.M, after accounting for the existing use (Project-Existing) the project (the addition of 10,338 sf of office use) is expected to generate 112 daily auto trips, including 16 auto trips (14 inbound and 2 outbound) during the a.m. peak hour and 14 auto trips (2 inbound and 12 outbound) during the p.m. peak hour.

The City's General Plan Circulation Element provides policy direction for the transportation system and links circulation strategies with those of population growth, environmental quality, and economic well-being. The Circulation Element establishes key goals, polices, programs, and requirements for achieving a transportation system that balances the needs of all road users. The project would not remove any sidewalks, bus shelters, obstruct any bicycle lanes or make any modifications to any transportation facilities (e.g., vehicular, transit, bicycle, or pedestrian). Therefore, the project would not conflict with the Circulation Element. Impacts would be **less than significant,** and no mitigation is required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not conflict with the Circulation Element because the proposed GPA does not include any changes in land uses. In addition, redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to the City's General Plan Circulation Element. Therefore, **no impact** would occur with implementation of the GPA component of the project.

b. Would the Project conflict or be inconsistent with CEQA Guidelines *§15064.3, subdivision (b)?*

Mezzanine Addition (Less Than Significant Impact). *State CEQA Guidelines* Section 15064.3, Subdivision (b), states that for land use projects, transportation impacts are to be measured by evaluating the project's VMT, as outlined in the following:

> *Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*

VMT is the amount and distance of automobile travel attributable to a project. According to the 2018 Office of Planning and Research (OPR) Technical Advisory, "automobile" refers to "on-road passenger vehicles, specifically cars and light trucks."

Project VMT Screening Determination

The City VMT Guidelines outline three screening criteria for land use projects:

- **Transit Priority Area (TPA) Screening:** Projects within a TPA that meet criteria such as minimum FARs may be presumed to have a less than significant VMT impact. The project is not within a TPA; therefore, this criterion does not apply.

- **Low-VMT-Area Screening:** Projects in low-VMT-generating areas may be presumed to have a less than significant VMT impact. The project is not in such an area; therefore, this criterion does not apply.

- **Project Type Screening:** Certain land use types (e.g., local-serving retail uses, schools, and gas stations), projects generating 110 daily vehicle trips, and warehousing uses up to 63,000 square feet are presumed to have a less than significant VMT impact. The existing use generates 665 daily trips; with the addition of the project, the site would generate 777 daily trips resulting in a net increase of 112 daily trips, slightly exceeding the daily trip threshold. Therefore, this criterion does not apply.

Based on the VMT screening criteria of the City VMT Guidelines, the project is not screened out of a detailed VMT analysis. Therefore, a VMT analysis has been prepared for the project. The VMT analysis methodology and results are presented in the following sections.

VMT Analysis

Detailed VMT Analysis Methodology. As recommended in the City VMT Guidelines, the most recent version of the Orange County Transportation Analysis Model (OCTAM), OCTAM 5.1, was used to conduct the detailed project VMT analysis. Additionally, the City VMT Guidelines recommend use of two types of VMT for land use project evaluation: project-generated VMT and the project's effect on VMT.

The City VMT Guidelines established VMT per service population (population plus employment) as the metric to evaluate project-generated VMT. The threshold was established as 85 percent of the County of Orange's (County) baseline average VMT per service population. Therefore, the project would result in a significant VMT impact if the project-generated VMT per service

population is greater than the average County VMT per service population under baseline conditions. The average County VMT per service population was obtained from LSA's "no project" OCTAM run under baseline conditions.

The project's potential effect on VMT is determined by comparing the citywide VMT per service population for baseline and cumulative "with project" scenarios with the corresponding "no project" scenarios. The project would result in a significant impact if the citywide roadway VMT per service population increases in the "with project" conditions compared to "no project" conditions. The following is a detailed description of the VMT analysis:

Project Traffic Analysis Zone Update. The first step in preparation of this analysis was to update the traffic analysis zone (TAZ) in OCTAM that includes the project site. Typically, project VMT is estimated by isolating the project in a new TAZ or multiple TAZs, depending on the diversity of project land uses and project size. Since OCTAM does not allow addition of new TAZs, one TAZ was borrowed for this project. Land use from the borrowed TAZ was moved to an adjacent TAZ and the project land use was added to the borrowed TAZ. Moving land use from the borrowed TAZ to an adjacent TAZ does not affect model's performance while it helps with isolating the project in the model and to determine project VMT and its impact. The project TAZ was used to calculate project-specific VMT per service population.

OCTAM is a socioeconomic model and therefore project land uses should be converted into model employment types. Project land use was converted to socioeconomic data using appropriate regional factors. The land use to employee conversion factors were developed using the ITE Trip Generation Manual, 11th edition. The ITE trip generation manual includes trip generation rates for different land use categories by different units such as square footage, number of units, and/or number of employees. Employee/square footage rate was determined for project use by dividing the daily trip rate per 1,000 sf by daily trip rate per employee. This ratio was used to estimate number of employees per square feet for the project use, which, in turn, was used to estimate total project employees.

A similar approach was used for the cumulative year. It should be noted that, for these purposes, the project land use was included in OCTAM as an additional land use and no shifting of land use/socioeconomic data from the parent TAZ was applied. Therefore, the cumulative VMT analysis can be considered as a conservative estimate.

Model Runs and Project VMT Estimation. Model runs were conducted for the updated "with project" OCTAM scenarios after incorporating the project land use as described above. Project-generated VMT was estimated from the OCTAM outputs using origin-destination trip matrices and multiplying them with the final assignment skim matrices. The Origin/Destination (OD) method for calculating VMT sums all weekday VMT generated by trips with at least one trip-end in the study area and tracks those trips to their origins or destinations. Origins are all vehicle trips that start in a specific TAZ, whereas destinations are all vehicle trips that end in a specific TAZ. The OD method accounts for all trip purposes and therefore provides a more complete estimate of VMT. Origin-destination matrix outputs were used as trips and the trip lengths were derived from the skimming step to estimate OD VMT as recommended in the guidelines. OD matrix outputs include all vehicle trips (all trip purposes) and, hence, no conversion for

automobile occupancy was applied. The trip length or distance was obtained using the model outputs from the "skimming" step. The extracted project VMT was divided by the estimated project service population (project employment) to develop the project-generated VMT per service population for both the base and cumulative scenarios.

Similarly, the OCTAM output roadway volumes were used to estimate citywide roadway VMT per service population for the "no project" and "with project" conditions for both the base and cumulative scenarios.

Project's Potential VMT Impact. Table 5.N summarizes the City's significance threshold and project VMT per service population for the base year. As shown in Table 5.N, the project's potential VMT per service population is anticipated to be 24.2 percent lower than the City's threshold. Therefore, based on the City VMT Guidelines, the project would not have a significant VMT impact for the base year.

Detailed VMT calculations for the project are provided in Attachment B of Appendix C.

Table 5.N: Threshold and Base Year Project VMT per Service Population

City of Garden Grove Threshold (2019 Baseline Orange County)[1]	Proposed Project	Difference	% Difference	Significant Impact
21.6	16.3	(5.2)	-24.2%	**No**

[1] Estimated using "no project" OCTAM base year (2019) model runs
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

Table 5.O summarizes the significant threshold and the project VMT per service population for the cumulative year. As shown in Table 5.17.C, the project's cumulative year VMT per service population is anticipated to be 28.4 percent lower than the City's threshold. Therefore, as stated in the City VMT Guidelines, the project will not have a significant VMT impact for the cumulative year.

Detailed VMT calculations for the project are provided in Attachment B of Appendix C.

Table 5.O: Threshold and Cumulative Year Project VMT per Service Population

City of Garden Grove Threshold (2019 Baseline Orange County)[1]	Proposed Project	Difference	% Difference	Significant Impact
21.6	15.4	(6.1)	-28.4%	**No**

[1] Compiled by LSA using OCTAM (2025).
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

Project's Potential Effect on VMT. Table 5.P summarizes the base year "no project" and "with project" citywide roadway VMT per service population. As shown in Table 5.P, the "with project" citywide roadway VMT per service population remains unchanged compared to the "no project" metric. As such, the project's effect on VMT for the base year is less than significant.

Detailed VMT calculations for the project are provided in Attachment B of Appendix C.

Table 5.P: Base Year (2019) Citywide Roadway VMT per Service Population

2019	No Project	With Project	Difference	Percentage Difference
City of Garden Grove[1]	11.0	11.0	0.0	0.0%

[1] Compiled by LSA using OCTAM (2025).
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

Table 5.Q summarizes the corresponding values for cumulative year. As shown in Table 5.Q, the "with project" citywide roadway VMT per service population remains unchanged compared to the "no project" metric. As such, the project's effect on VMT for the cumulative year is less than significant.

Table 5.Q: Cumulative Year (2050) Citywide Roadway VMT per Service Population

2050	No Project	With Project	Difference	Percentage Difference
City of Garden Grove[1]	11.2	11.2	0.0	0.0%

[1] Estimates from OCTAM (2025)
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

As such, the project would not conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3(b). Potential impacts are determined to be **less than significant**, and no mitigation is required.

FAR Amendment (No Impact). The proposed includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not conflict with *State CEQA Guidelines* Section 15064.3(b) because the proposed GPA does not include any changes in land uses. In addition, redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to *State CEQA Guidelines* Section 15064.3(b). Therefore, **no impact** would occur with implementation of the GPA component of the project.

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

Mezzanine Addition (Less Than Significant Impact). Knott Street would provide direct access to the project site. Improvements are not required to accommodate traffic along this roadway. Adequate visibility (without any sight obstructions) is currently provided along Knott Street for all vehicles to safely access the project site. The project would not create any new sight obstructions, would not modify any existing intersections or create any new intersections, and would not call for any incompatible uses such as farm equipment. The project would not substantially increase hazards for vehicles due to a geometric design feature or incompatible uses. Therefore, impacts would be **less than significant,** and no mitigation is required.

FAR Amendment (No Impact). In addition, the project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not conflict with *State CEQA Guidelines* Section 15064.3(b) because the proposed GPA does not include any changes in land uses. In addition, redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to hazards due to geometric design features. Therefore, **no impact** would occur with implementation of the GPA component of the project.

d. Would the Project result in inadequate emergency access?

Mezzanine Addition (Less Than Significant Impact). The project would use the existing regional and local roadway network serving the project area and would not introduce any new roadways or land uses that conflict with existing development. The existing emergency access conditions comply with OCFA access requirements as well as Chapter 5 of the California Fire Code and the project would not alter or otherwise affect these existing conditions. Because no modifications would be necessary and no improvements to Knott Street are required, no roadway or lane closures are anticipated, and project-related vehicles would not impede traffic flow on the surrounding circulation system. Design features such as internal access, ingress, and egress would be subject to review by the City's Public Works Department and OCFA to ensure adequate fire engine access and turning radii. All emergency access routes to the project site and adjacent areas would be kept clear and unobstructed at all times. The project would not require improvements to Knott Street as described above. No roadway closures or lane closures are anticipated, and project vehicles would not impede traffic flow on the surrounding circulation system. Therefore, the project would not result in inadequate emergency access. Impacts would be **less than significant,** and no mitigation is required.

FAR Amendment (No Impact). The project includes a GPA that would establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not result in inadequate emergency access because the proposed GPA does not include any changes in land uses. In addition, redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to emergency services. Therefore, **no impact** would occur with implementation of the GPA component of the project.

5.18 TRIBAL CULTURAL RESOURCES

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

5.18.1 Impact Analysis

a. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Mezzanine Addition (Less Than Significant). AB 52 and CEQA Public Resources Code Section 21080.3.1, subdivisions (b), (d), require 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. The City sent consultation request letters to the tribal contacts on their existing consultation list on January 7, 2025. These tribes have 30 days to request consultation for the project. The purpose of this effort was to provide Native American tribes with the opportunity

for meaningful participation and to identify known tribal cultural resources on or near the project site. The following tribes received letters pursuant to AB 52:

1. Gabrielino-Tongva Tribe
2. Juaneño Band of Mission Indians- Acjachemen Nation
3. Soboba Band of Luiseno Indians
4. Torres Martinez Desert Cahuilla Indians

In compliance with AB 52, tribes had 30 days from the date of receipt of notification to request consultation on the proposed project. Information provided through the AB 52 tribal consultation process typically informs the assessment as to whether tribal cultural resources are present within the project site and the significance of any potential impacts to such resources. No responses were received during the open tribal consultation period.

The project would not include any ground disturbing activities. As such, it is unlikely that implementation of the project would result in impacts to 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.

FAR Amendment (No Impact). As previously discussed, a GPA is proposed under the project to establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. Senate Bill 18 (SB 18) consultation is required when an amendment to the General Plan is proposed. SB 18 consultation letters were sent to all tribes on the City's SB 18 consultation list on January 7, 2025. These tribes have 90 days to request consultation for the project and GPA. On January 13, 2025, the City received a response from the Gabrielino Tribe, Kizh Nation, requesting consultation. City staff sent a follow-up email on January 14, 2025, clarifying the scope of work and necessity for consultation and/or mitigation given that the project would not include any ground disturbing activities. The City sent another follow-up email on March 5, 2025 and received no response. On March 28, 2025, the City sent an email to the Kizh Nation deeming the consultation period closed. On March 31, the Kizh Nation responded asking for clarification regarding ground disturbing activities. City staff confirmed that there is no proposed ground disturbance. The parcels affected by the proposed GPA are fully developed, and implementation of the GPA would not result in any ground-disturbing activities. **No impact** related to tribal cultural resources would occur.

5.19 UTILITIES AND SERVICE SYSTEMS

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

5.19.1 Impact Analysis

a. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Mezzanine Addition (Less Than Significant Impact). The project consists of the construction of a mezzanine within an existing warehouse building. The mezzanine is expected to support additional office space within a building that is currently served by existing utilities.

Water. The primary water supplier in the City is the Garden Grove Water Services Division (GGWSD), serving an area of 17.8 square miles.[43] According to the Garden Grove 2020 Urban Water Management Plan (UWMP), the City provides water to its residents and customers using a combination of local groundwater from the Orange County Groundwater Basin (OC Basin) and supplemental imported water supply from the Municipal Water District of Orange County (MWDOC).[44] Water use within the City is expected to remain stable as the City is essentially built-out. Although water demand is projected to increase 0.9 percent from 2025 to 2045, the City's water supply is 100 percent reliable for normal year, single dry year, and multiple dry year demands from 2025 to 2045.[45] The project involves the addition of a mezzanine within an existing building

43 City of Garden Grove. 2008d. Garden Grove General Plan. *Chapter 6 Infrastructure Element*.
44 City of Garden Grove. 2021. Garden Grove 2020 Urban Water Management Plan. *Executive Summary*.
45 City of Garden Grove. 2021. Garden Grove 2020 Urban Water Management Plan. *7.3 Water Service Reliability Assessment*.

that is already connected to existing utilities and would not require or result in the construction of new water facilities, or the expansion of existing water facilities, which could cause a significant environmental impact. Impacts would be less than significant, and no mitigation is required.

Wastewater. The Garden Grove Sanitary District (GGSD) provides sewer services to the City of Garden Grove. The City's wastewater systems consist of gravity sewer pipes, manholes, and four lift stations. Wastewater in the City is collected and conveyed to Orange County Sanitary District (OCSD) trunk sewers for treatment and disposal. OCSD Plant No. 1 in Fountain Valley has a capacity of 320 million gallons per day (MGD) and Plant No. 2 in Huntington Beach has a capacity of 312 MGD. Both plants share a common ocean outfall off the coast of Huntington Beach. According to OCSD's 2023/2024 Annual Report, OCSD treated more than 190 million gallons of wastewater from residential, commercial, and industrial sources per day.[46] The proposed mezzanine is expected to support an additional 10 to 15 employees. The project's incremental contribution to wastewater treatment demand would not in and of itself exceed the existing or planned capacity of the GGSD or OCSD or require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be less than significant, and no mitigation is required.

Stormwater Drainage. The project is expected to maintain the existing drainage pattern on the project site and surrounding properties. No alterations to the existing building's utilities or drainage pattern are proposed under the project. Therefore, the project would not result in the need to upgrade stormwater drainage facilities. Implementation of the project would not require or result in the relocation or construction of new stormwater infrastructure that would cause significant environmental effects. Impacts would be less than significant, and mitigation is not required.

Electricity, Natural Gas, and Telecommunications. Electrical services in the City are provided by Southern California Edison (SCE). Telecommunications are provided by Spectrum, AT&T, Verizon, and other service providers in the area. The project site is already connected to existing electrical and telecommunications infrastructure. Implementation of the project would not require the relocation or construction of new electrical/natural gas/telecommunications infrastructure that would cause significant environmental effects. Impacts would be less than significant, and mitigation is not required.

FAR Amendment (No Impact). A GPA is proposed under the project to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not result in physical changes to the project site or any of the other parcels affected by the proposed GPA. Although redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time, any future development on those parcels would be subject to General Plan Land Use policies and requirements of the City's Zoning Code. Therefore, the GPA component of the project would have **no impact** existing utility facilities or require new or expanded facilities to be constructed.

[46] Orange County Sanitary District. n.d. OC San Annual Report 2023-24.

b. Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

Mezzanine Addition (Less Than Significant Impact). As stated previously, implementation of the project would not substantially increase the demand for water supplies on the project site. Short-term demand for water may occur during construction activities on site. Water from existing potable water lines in the vicinity of the project site would be used. Overall, short-term construction activities would require minimal water and are not expected to have any adverse impacts on the existing water system or available water supplies. The project would not require the construction of new or expanded water conveyance, treatment, or collection facilities with respect to construction activities.

The project-generated increase in water demand would be negligible and would fall within the City's existing capacity and available supply. As such, the project would not necessitate new or expanded water entitlements, and the City would be able to accommodate the increased demand for potable water.

The project would be served by the GGWSD through interconnection to existing water utilities. The project would not require or result in the construction of new or expanded water entitlements, and the City would be able to accommodate the incrementally increased demand for potable water. Therefore, water demand from the project would have sufficient water supplies available to serve the project from existing entitlements and resources and would not require new or expanded entitlements. Therefore, impacts related to water supplies would be **less than significant**, and no mitigation would be required.

FAR Amendment (No Impact). As mentioned above, the proposed GPA would not physically change the project site or applicable parcels within the proposed subareas. No physical changes would occur as the GPA would only increase the allowable FAR on the project site from 0.5 to 0.55. Additionally, there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to *water supplies*. Therefore, **no impact** to water supplies would occur with the implementation of the GPA component of the project.

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?

Mezzanine Addition (Less Than Significant Impact). As discussed above, the wastewater treatment plants that serve the City have an existing combined treatment capacity of 632 million gallons per day and operate at 190 million gallons of wastewater intake per day (a combined 442 million gallon per day treatment surplus capacity). As such, the wastewater treatment provider that serves the project site would have adequate capacity to serve the project's demand in addition to the provider's existing commitments. The project would generate an additional 10 to 15 employees, which represents a minimal increase in demand for wastewater services. Impacts would be less than significant, and mitigation is not required.

FAR Amendment (No Impact). The GPA component of the project would not require wastewater treatment as it is not a physical component of the project. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to wastewater services. **No impact** related to wastewater services would occur with the implementation of the GPA, which is proposed to increase the project site's allowable industrial FAR from 0.5 to 0.55.

d. Would the Project 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?

Mezzanine Addition (Less Than Significant Impact). Solid waste generated from the project would be disposed at either the Olinda Alpha Landfill in Brea, the Frank R. Bowerman Landfill in Irvine, or the Prima Deshecha Landfill in San Juan Capistrano.[47]

The Olinda Alpha Landfill at 1942 N. Valencia Avenue in Brea, is open Monday through Saturday from 7:00 a.m. to 4:00 p.m. and accepts wood waste, tires, mixed municipal waste, construction/demolition waste, industrial waste, and agricultural waste. As of 2020, the landfill reported 17,500,000 cubic yards of remaining capacity, with an estimated closure date of 2036. The Olinda Alpha Landfill has a daily disposal capacity of up to 8,000 tons.[48]

The Frank R. Bowerman Landfill at 11002 Bee Canyon Access Road in Irvine, is open Monday through Saturday from 7:00 a.m. to 4:00 p.m. and only accepts mixed municipal solid waste, construction/demolition waste, and industrial waste from commercial haulers. As of 2008, the landfill reported 205,000,000 cubic yards of remaining capacity with an estimated closure date of 2053. The Frank R. Bowerman Landfill has a daily disposal capacity of up to 11,500 tons.[49]

The Prima Deschecha Landfill at 32250 Avenida La Pata in San Juan Capistrano, is open Monday through Saturday from 7:00 a.m. to 5:00 p.m. and accepts wood waste, sludge (bio solids), mixed municipal waste, construction/demolition waste, and industrial waste. As of 2023, the landfill reported 128,800,000 cubic yards of remaining capacity with an estimated closure date of 2102. The Prima Deschecha Landfill has a daily disposal capacity of up to 4,000 tons.[50]

Construction activities on the project site would generate solid waste, of which at least 65 percent of non-hazardous material would be diverted to a material recycling facility. The City's Municipal Code identifies construction and demolition waste diversion requirements that are applicable to the project. Additionally, the Garden Grove General Plan contains goals and policies related to solid waste that are in compliance with state laws and regulations. Per the California Green Building Code

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47 OC Waste & Recycling. n.d. Landfills. Website: https://www.oclandfills.com/landfills (accessed December 2024).

48 CalRecycle. 2019a. *SWIS Facility/Site Activity Details. Olinda Alpha Landfill*. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2757?siteID=2093 (accessed December 2024).

49 Cal Recycle. 2019b. *SWIS Facility/Site Activity Details. Frank R. Bowerman Landfill*. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2767?siteID=2103 (accessed December 2024).

50 Cal Recycle. 2019c. *SWIS Facility/Site Activity Details. Prima Deschecha Landfill*. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2750?siteID=2085 (accessed December 2024).

(CALGreen), a minimum of 65 percent of debris would be diverted to a material recycling facility, thus reducing the input of solid waste to the Olinda Alpha Landfill, Frank R. Bowerman Landfill, and the Prima Deschecha Landfill. The project would not 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. Impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). Additionally, a GPA is proposed under the project to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not have a physical effect on the project site or any of the other parcels affected by the proposed GPA that would generate solid waste and affect local infrastructure. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to solid waste. Therefore, the GPA component of the project would have **no impact** related to solid waste.

e. Would the Project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Mezzanine Addition (Less Than Significant Impact). Solid waste generated during project operation would be managed pursuant to the California Integrated Waste Management Act of 1989 (Assembly Bill 939), which requires each city's or county's source reduction and recycling element to include an implementation schedule demonstrating at least 50 percent diversion of solid waste from landfill disposal or transformation on and after January 1, 2000. In addition, construction waste would be subject to Part 11 of the Title 24 Building Energy Efficiency Standards (CALGreen), which requires a minimum of 65 percent of construction waste be diverted from landfills for reuse and/or recycling.

Project compliance with the CALGreen Program is required as a matter of regulatory policy. The project must comply with the City's waste disposal requirements as well as the California Green Building Code and, as such, would not conflict with any federal, State, or local regulations related to solid waste. Impacts would be **less than significant**, and mitigation is not required.

FAR Amendment (No Impact). The GPA component of the project would not conflict with any waste disposal requirements or regulations related to solid waste because the GPA would not result in any physical changes to the project site or any of the other parcels within the IC land use designation. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time. Any future development on the other parcels affected by the GPA would be subject to General Plan Land Use policies and requirements of the City's Zoning Code. Therefore, **no impact** related to solid waste regulation would occur with the implementation of the GPA component of the proposed project.

5.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

CAL FIRE designates the project site in the Local Responsibility Area (LRA) and not within a Very High Fire Hazard Severity Zone (VHFHSZ).[51]

5.20.1 Impact Analysis

a. Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Mezzanine Addition (No Impact). The project site is surrounded by urban development and is not within or near a State Responsibility Area (SRA) or within a VHFHSZ in an LRA.[52] Additionally, the project does not alter the existing project access or circulation design that would affect the existing emergency response plan or emergency evacuation plan. Existing emergency response plans and evacuation plans would remain unchanged with the implementation of the project. Additionally, because the project consists of the construction of a mezzanine within an existing building, no changes to the existing project vicinity or site design that may impair emergency evacuation routes would occur. **No impact** would occur, and mitigation is not required.

FAR Amendment (No Impact). As previously discussed, a GPA is proposed under the project to establish two subareas within the existing IC land use designation to increase the allowable FAR on the project site from 0.5 to 0.55. The GPA would not affect an adopted emergency response plan or evacuation plan, because there are no proposed projects or changes in existing use under the GPA. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and

[51] CAL FIRE. n.d. Fire and Resource Assessment Program (FRAP). Orange County. Very High Fire Hazard Severity Zones in LRA. Website: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps (accessed December 2024).

[52] *Ibid*.

any future development on those parcels would be subject to applicable plans, policies, or regulations related to emergency response or evacuation plans. **No impact** related to an emergency response plan or emergency evacuation plan would occur.

b. Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Mezzanine Addition (No Impact). The project consists of interior improvements to an existing warehouse structure. The construction of the proposed mezzanine would not result in ground-disturbing activities that may result in slope instabilities. The project site is flat with no potential for landslides. In addition, the project site is surrounded by other urban development. Since the project site is surrounded by other development and is not within a SRA or within a VHFHSZ in an LRA, **no impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). The GPA component of the project does not have any physical components that would exacerbate wildfire risk or expose project occupants to pollutant concentrations. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to wildfire. Therefore, **no impact** related to wildfire would occur with the implementation of the GPA component of the project.

c. Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Mezzanine Addition (No Impact). Construction of the project would not involve installation of new infrastructure that may exacerbate fire risk on the project site. The existing building has existing infrastructure that would support the proposed mezzanine. Operation of the project would not increase fire risk on the site or in the project vicinity. Since the project site is surrounded by other development and is not within a SRA or within a VHFHSZ in an LRA, **no impact** would occur, and no mitigation is required.

FAR Amendment (No Impact). The proposed GPA would not result in physical changes to any other parcels affected by this GPA. Although redevelopment of the other parcels affected by the proposed GPA is not reasonably foreseeable, any future development on those parcels would be subject to General Plan Land Use policies and requirements of the City's Zoning Code. Therefore, **no impact** related to the installation or maintenance of associated infrastructure that may exacerbate fire risk would occur with the implementation of the GPA component of the project.

d. Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Mezzanine Addition (No Impact). As previously discussed, the project consists of the construction of a mezzanine within an existing warehouse. The construction of the proposed mezzanine would not

result in ground disturbing activities that could affect slope stability or drainage patterns. In addition, the project site is not within a flood hazard or landslide zone. Therefore, **no impact** related to post-fire slope stability or drainage changes would occur, and mitigation is not required.

FAR Amendment (No Impact). As mentioned above, the proposed GPA would not result in physical changes to the project site, or any other parcels affected by the FAR increase. Redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time. Furthermore, none of the other parcels affected by the GPA are within a flood hazard or landslide zone. Therefore, **no impact** related to post-fire slope instability or drainage changes would occur with the implementation of the GPA component of the project.

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

5.21.1 Impact Analysis

a. Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Mezzanine Addition (No Impact). As articulated in Section 5.4, Biological Resources, the project would not impact any fish or wildlife species or associated habitat. The project includes the construction of a mezzanine within an existing warehouse building and would not alter the exterior of the project site or its surrounding area. Construction activities for the proposed mezzanine would remain within the existing warehouse building and would not impact any biological resources in the project vicinity. Additionally, as articulated in Section 5.5, Cultural Resources, the project would not require any grading activities that could eliminate important examples of the major periods of California history or prehistory. The project would not (1) degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of the major periods of California history. **No impact** would occur.

FAR Amendment (No Impact). The project also includes a GPA to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. Redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to degradation of environmental quality. Therefore, the proposed discretionary

action would not (1) degrade the quality of the environment; (2) substantially reduce the habitat of a fish or wildlife species; (3) cause a fish or wildlife population to drop below self-sustaining levels' (4) threaten to eliminate a plant or animal community; (5) reduce the number or restrict the range of a rare or endangered plant or animal; or (6) eliminate important examples of the major periods of California history. No cumulatively considerable impacts would occur.

b. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Mezzanine Addition (Less Than Significant Impact). As presented in the discussion of environmental impacts in Sections 5.1 through 5.20 of this IS/ND, the project would have no impact or a **less than significant impact** with respect to all environmental issues.

The project includes the construction of an additional 10,338 sf of mezzanine office space within an existing 173,000 sf building. Construction is anticipated to begin in early 2025 and last for approximately 7 months. No exterior construction or revisions to the existing parking lot are proposed. All construction staging would be contained within the project site, and all construction equipment would access the site from Knott Street on the east side of the project site. The proposed mezzanine space would likely allow additional capacity for 10 to 15 employees.

The project is consistent with the planned growth of the City, and cumulative overburdening of community infrastructure and service capacity is not expected. Impacts specified throughout this IS are considered project specific in nature due to the limited scope of direct physical impacts to the environment. Consequently, the project, along with other cumulative projects, would result in a **less than significant** cumulative impact with respect to all environmental uses.

FAR Amendment (No Impact). The project site's zoning (PUD 104-70 [REV. 2019]) allows for the current use, and the current use would not change with implementation of the project. The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space would increase the FAR to 0.53. In order for the project site to remain in compliance with the General Plan Land Use designation and associated maximum FAR, an Amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. Redevelopment of the other parcels affected by the proposed GPA is not reasonably feasible or foreseeable at this time. Therefore, **no impact**, cumulatively considerable or otherwise, would occur with the implementation of the GPA component of the project.

c. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Mezzanine Addition (Less Than Significant Impact). In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise. The South Coast Air Basin is currently designated as a non-attainment area for ozone, particulate matter equal to or less than 10 microns in diameter (PM_{10}), and particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$). Implementation of the project would not contribute significant amounts of air pollutant

emissions on either a short-term or long-term basis. Adherence to South Coast Air Quality Management District dust control measures would further reduce short-term construction air quality impacts, and no project-specific mitigation is required. As discussed in Section 5.9, Hazardous Materials, no hazardous materials or recognized environmental conditions were identified at the project site. Any hazardous materials used during construction and operation of the project would be regulated by the Orange County Fire Authority and the California Occupational Safety and Health Administration. Additionally, the routine transport, use, and disposal of hazardous materials at the project site during construction would be performed in accordance with the requirements of California Code of Regulations Title 8, which would minimize potential health hazards for construction workers, landscapers, maintenance personnel, and residents.

As described in further detail in Section 5.13, Noise, the project would not result in the 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. Mitigation is not required.

FAR Amendment (No Impact). In addition, under the project, a GPA is proposed to establish two subareas within the existing IC land use designation to increase the allowable industrial FAR on the project site from 0.5 to 0.55. The GPA would not cause substantial adverse effects on human beings, because there are no projects or changes in existing use under the GPA. Additionally, redevelopment on the affected parcels is not reasonably feasible or foreseeable at this time, and any future development on those parcels would be subject to applicable plans, policies, or regulations related to environmental effects. **No impact** related to environmental effects that would cause substantial adverse effects on human beings would occur with implementation of the GPA component of the project.

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6.0 LIST OF PREPARERS

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7.0 REFERENCES

CAL FIRE. n.d. Fire and Resource Assessment Program (FRAP). Orange County. Very High Fire Hazard Severity Zones in LRA. Website: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps (accessed December 2024).

CalRecycle. 2019a. *SWIS Facility/Site Activity Details. Olinda Alpha Landfill*. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2757?siteID=2093 (accessed December 2024).

Cal Recycle. 2019b. SWIS Facility/Site Activity Details. Frank R. Bowerman Landfill. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2767?siteID=2103 (accessed December 2024).

Cal Recycle. 2019c. SWIS Facility/Site Activity Details. Prima Deschecha Landfill. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2750?siteID=2085 (accessed December 2024).

California Air Resources Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

California Department of Conservation. 2016. California Important Farmland Finder. Website:

_____. 2022. Orange County Tsunami Hazard Areas Map. Website: https://www.conservation.ca.gov/cgs/tsunami/maps/orange (accessed January 2025)

_____. n.d. California Williamson Act Enrollment Finder. Website: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html (accessed December 2024).

California Department of Toxic Substances Control (DTSC). 2022. EnviroStor Database. Website: https://www.envirostor.dtsc.ca.gov/public/ (accessed December 2024).

California Department of Transportation (Caltrans). 2018. California State Scenic Highway System Map. Website: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed December 2024).

California Energy Commission (CEC). 2016. Electricity Consumption by County. www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed January 2025).

California Environmental Protection Agency (Cal/EPA). 2020. Cortese List Data Resources. Website: https://calepa.ca.gov/sitecleanup/corteselist/ (accessed December 2024).

California Geological Survey 2010. Fault Activity Map of California. Website: https://maps.conservation.ca.gov/cgs/fam/app/ (accessed December 2024).

California Air Resources Board (CARB). 2022. California's 2022 Scoping Plan for Achieving Carbon Neutrality. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025).

California Energy Commission (CEC). 2023. 2023 Integrated Energy Policy Report. California Energy Commission. Docket Number: 23-IEPR-01.

City of Garden Grove. 2008a. Garden Grove General Plan 2030. Chapter 10 Conservation Element. May.

_____. 2008b. Garden Grove General Plan 2030. Chapter 11 Safety Element.

_____. 2008c. Garden Grove General Plan 2030. Chapter 2, Land Use Element.

_____. 2008d. Garden Grove General Plan. *Chapter 6 Infrastructure Element*.

_____. 2020. Garden Grove Local Hazard Mitigation Plan. February.

_____. 2021. Garden Grove 2020 Urban Water Management Plan. June.

_____. 2021. Garden Grove Focused General Plan Update and Zoning Amendments Draft EIR. August.

_____. 2021. Garden Grove Focused General Plan Update Draft Initial Study.

_____. 2021. General Plan Land Use Element. Website: https://ggcity.org/sites/default/files/LandUseElement.pdf (accessed September 24, 2024).

_____. n.d.-a. Public Works. Tree Ordinance. Website: https://ggcity.org/pw/tree-ordinance (accessed December 2024).

County of Orange. 2023. Orange County Operational Area Unified Emergency Operations Plan. November.

Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual.

Garden Grove Unified School District. n.d. District Overview. About Us. Website: https://www.ggusd.us/district/about-us (accessed December 2024)

LSA Associates, Inc. 2025a. Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project.

_____. 2025b. Transportation Memorandum for the 12821 Knott Street Project.

OC Waste & Recycling. n.d. Landfills. Website: https://www.oclandfills.com/landfills (accessed December 2024).

Orange County Sanitary District. n.d. OC San Annual Report 2023-24.

Orange County Transportation Authority. 2024. 2024 Traffic Flow Map.

South Coast Air Quality Management District. 1976. Rule 402. Website: https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdfhttps://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf (accessed January 2025).

_____. 2014. *Warehouse Truck Trip Study Data Results and Usage.* July.

Southern California Association of Governments (SCAG). 2024. Connect SoCal 2024. April. Website: scag.ca.gov/connect-socal (accessed January 2025).

State Water Resources Control Board (SWRCB). 2022. Geotracker Database. Website: https://geotracker.waterboards.ca.gov/ (accessed December 2024).

United States Census Bureau. n.d. QuickFacts, Garden Grove City, California. Website: https://www.census.gov/quickfacts/fact/table/gardengrovecitycalifornia,US (accessed December 2024).

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APPENDIX A

AIR QUALITY AND GREENHOUSE GAS EMISSION MEMORANDUM

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CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 19, 2025

TO: Priit Kaskla, Associate Planner, City of Garden Grove

FROM: Ron Brugger, Senior Air Quality Specialist

SUBJECT: Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project in Garden Grove, California

INTRODUCTION

LSA has prepared this Air Quality and Greenhouse Gas Technical Memorandum to evaluate the potential impacts associated with construction and operation of the proposed mezzanine addition to the existing Harbinger Motors, Inc. facility at 12821 Knott Street (project) in Garden Grove, California. This analysis was prepared using methods and assumptions recommended in the air quality impact assessment guidelines of the South Coast Air Quality Management District (SCAQMD) in its *CEQA Air Quality Handbook* (1993)[1] and associated updates. This analysis includes an assessment of criteria pollutant emissions, an assessment of carbon monoxide (CO) hot-spot impacts, and an assessment of the project's potential greenhouse gas (GHG) emissions.

PROJECT LOCATION

Harbinger Motors, Inc. (herein referred to as the "Applicant") currently occupies a 7.97-acre property at 12821 Knott Street (Assessor's Parcel Number [APN] 215-014-01) in Garden Grove, California. Regional access to the project site is provided by State Route 22 (SR-22), located immediately south of the project site, and Knott Street, immediately east of the project site. Figure 1 (all figures are provided in Attachment B) shows the project location.

PROJECT DESCRIPTION

The proposed project would add 10,338 sf of mezzanine (office) space to the existing 173,080-square-foot (sf) warehouse building. The existing warehouse building has 27,909 sf of office space split between the first and second floors. The proposed project would increase office space on the second floor, bringing the second-floor office space total to 28,247 sf, for a total of 38,247 sf of office space at project completion. No additional office space square footage is planned on the first floor nor is any alteration of the building shell planned. At project completion, the project site would have 183,418 total sf and would exceed the maximum floor-area ratio (FAR) of 0.50 allowed under its General Plan Land Use Designation, requiring a General Plan Amendment to allow an FAR of 0.53.

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[1] South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed January 2025).

No exterior construction is proposed as part of the project. Based on the proposed project trip generation analysis[2], the proposed project (10,338 sf of office use) is expected to generate 112 daily trips, including 16 trips (14 inbound and 2 outbound) during the a.m. peak hour and 14 trips (2 inbound and 12 outbound) during the p.m. peak hour.

No exterior construction is proposed as part of the project. Construction of the proposed project would only include internal building construction and architectural coating activities, material delivery handling, and worker commutes. Construction of the proposed project is anticipated to begin in 2025 and last for approximately 7 months. This study is based on this anticipated construction schedule.

SENSITIVE RECEPTORS IN THE PROJECT AREA

For this analysis, sensitive receptors are those that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, daycare centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because those receptors are the population most vulnerable to the effects of air pollution. The project site is within a highly urbanized area of Garden Grove. Surrounding uses include The Garden Room Banquet Facility and Wedding Chapel to the north, office and industrial uses and the Calvary Chapel Westgrove across Knott Street to the east, the Garden Grove Freeway (SR-22) and the city of Westminster to the south, and a residential community to the west. Surrounding General Plan land designations include Industrial/Commercial Mixed Use (IC) to the north and east, across Knott Street, Industrial (I) to the northeast across Knott Street, the Garden Grove Freeway (SR-22) and Westminster to the south, and low-density residential (LDR) uses to the west, across Brady Way. A summary of the analysis distances relative to the sensitive receptors for air quality is provided in Table A.

Table A: Summary of Analysis Distances by Impact Category

Activity	Nearest Sensitive Receptor	Points of Analysis	Distance (feet)
Construction[1]	Single-family homes on Dumont Street	Perimeter of construction activities (the edge of the existing building as construction would all be inside) to building edge of the nearest sensitive receptor	160
Operations	Single-family homes on Dumont Street	Emissions sources on-site generalized at the centroid of the project site to edge of nearest sensitive receptor	355

Source: Google Maps view of project area.
Note: Distance for construction air quality impact potential includes the assumption that heavy construction equipment would operate adjacent to the proposed project boundary, which is 30 feet from the nearest off-site structures where a person would live.

[2] LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project*, January.

ENVIRONMENTAL SETTING

Air Quality Background

Air quality is primarily a function of local climate, local sources of air pollution, and regional pollution transport. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The project site is in Garden Grove in Orange County and is within the jurisdiction of SCAQMD, which regulates air quality in the South Coast Air Basin (Basin).

The Basin comprises approximately 10,000 square miles and covers all of Orange County and the urban parts of Los Angeles, Riverside, and San Bernardino counties. The Basin is on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east, forming the inland perimeter.

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally.

Air quality monitoring stations are located throughout the nation and are maintained by the local air districts and state air quality regulating agencies. Data collected at permanent monitoring stations are used by the United States Environmental Protection Agency (EPA) to identify regions as "attainment" or "nonattainment" depending on whether the regions meet the requirements stated in the applicable National Ambient Air Quality Standards (NAAQS). Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and to comply with the NAAQS. As shown in Table B, the Basin is designated as nonattainment by the federal standards for O_3 and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and nonattainment by the State standards for O_3, particulate matter less than 10 microns in diameter (PM_{10}), and $PM_{2.5}$.

Table B: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment[1]	Unclassified/Attainment[1]
All Others	Attainment/Unclassified	Attainment/Unclassified

Source 1: NAAQS and CAAQS Attainment Status for South Coast Air Basin (SCAQMD 2016).
Source 2: Nonattainment Areas for Criteria Pollutants (Green Book) (EPA 2019).
[1] Only the Los Angeles County portion of the South Coast Air Basin is in nonattainment for lead.
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
EPA = United States Environmental Protection Agency
N/A = not applicable
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide

O_3 levels, as measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by SCAQMD and other regional, State, and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the Basin still exceeds the State standard for 1-hour and 8-hour O_3 levels. The EPA lowered the 1997 0.80 part per million (ppm) federal 8-hour O_3 standard to 0.75 ppm in 2008 and then to 0.70 ppm on October 1, 2015. The Basin is classified as nonattainment for the 1-hour and 8-hour O_3 standards at the State level and as extreme nonattainment for the 8-hour O_3 standard at the federal level.

From 2021 to 2023, the Anaheim, Pampas Lane monitoring station at 1630 West Pampas Lane, Anaheim, California (the closest station to the project site) recorded the following exceedances of O_3 standards[3]:

- The federal and State 8-hour O_3 standards had no exceedances in 2021, 1 in 2022, and 2 in 2023.
- The State 1-hour O_3 standard had no exceedances in 2021, 1 in 2022, and 0 in 2023.

Federal and State standards have also been established for $PM_{2.5}$ over 24-hour and yearly averaging periods. $PM_{2.5}$, because of the small size of individual particles, can be especially harmful to human health. $PM_{2.5}$ is emitted by common combustion sources such as cars, trucks, buses, and power plants, in addition to ground-disturbing activities. On February 7, 2024, the USEPA strengthened the NAAQS for $PM_{2.5}$ by revising the primary (health-based) annual standard from 12.0 micrograms per cubic meter ($\mu g/m^3$) to 9.0 $\mu g/m^3$; however, a new attainment designation has not been issued. The Basin is

[3] California Air Resources Board (CARB). 2023. *iADAM: Air Quality Data Statistics.* Website: www.arb.ca.gov/adam/index.html (accessed January 2025).

also considered a nonattainment area for the $PM_{2.5}$ standard at the State level. From 2021 to 2023, the Anaheim Pampas Lane station recorded the following exceedances of $PM_{2.5}$ standards:

- The federal 24-hour $PM_{2.5}$ standard had 10 exceedances in 2021, 0 in 2022, and 1 in 2023.
- The 2012 federal Annual $PM_{2.5}$ standard was not exceeded in 2021, 2022, or 2023 (the 2024 federal Annual $PM_{2.5}$ standard was exceeded in all three years).
- The State Annual $PM_{2.5}$ standard was not exceeded in 2021, 2022, or 2023.

The Basin is classified as a PM_{10} nonattainment area at the State level and was redesignated from serious nonattainment to attainment of the federal PM_{10} standard on July 26, 2013. Because the Basin was redesignated from nonattainment to attainment, a PM_{10} maintenance plan was adopted in 2013 and is required to be updated every 10 years. The Anaheim Pampas Lane station recorded the following exceedances of the PM_{10} standards:

- The State 24-hour PM_{10} standard had 1 exceedance in each of 2021, 2022, and 2023.
- The federal 24-hour PM_{10} standard had 0 exceedances in each of 2021, 2022, and 2023.
- The federal Annual PM_{10} standard was not exceeded in 2021, 2022, or 2023.
- The State Annual PM_{10} standard was exceeded in each of 2021, 2022, and 2023.

All areas of the Basin have continued to remain below the federal CO standards (35 ppm 1-hour and 9 ppm 8-hour) since 2003. The EPA redesignated the Basin to attainment of the federal CO standards effective June 11, 2017. The Basin is also well below the State CO standards (20 ppm 1-hour CO and 9 ppm 8-hour CO). Similarly, ambient levels of nitrogen oxides (NO_X) and sulfur oxides (SO_X) continue to remain below their respective federal and State standards.

Greenhouse Gas Background

GHGs are present in the atmosphere naturally, are released by natural sources, or form from secondary reactions taking place in the atmosphere. Although man-made GHGs include naturally occurring GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), some gases like hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF_3), and sulfur hexafluoride (SF_6) are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of

heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalents (CO_2e).

REGULATORY SETTING

This section provides regulatory background information for air quality and GHGs.

Air Quality

Applicable federal, State, regional, and local air quality regulations are discussed below.

Federal Regulations

The 1970 federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and set deadlines for their attainment. The CAA Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required for areas of the nation that exceed the standards. Under the CAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

State Regulations

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with the authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and areawide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

The California Air Resources Board (CARB) is the State's "clean air agency". CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations.

Regional Regulations

The proposed project would be required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. SCAQMD Rule 1113 limits the volatile organic compound (VOC) content of architectural coatings. Applicable dust suppression techniques from SCAQMD Rule 403 and low VOC content in paints under SCAQMD Rule 1113 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

- **South Coast Air Quality Management District Rule 403 Measures:**
    - All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
    - Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour (mph) or less.
- **South Coast Air Quality Management District Rule 1113 Measures:** SCAQMD Rule 1113 governs the sale, use, and manufacture of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction and operation of the proposed project. Therefore, all paints and solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1113.

Local Regulations

City of Garden Grove General Plan. The City of Garden Grove addresses air quality in the Air Quality Element of its Policy Plan.[4] The Air Quality Element includes goals and policies that work to improve and maintain air quality for the benefit of the health and vitality of the residents and the local economy. The following policies from the Air Quality Element are applicable to the proposed project:

- **Goal AQ-1:** Air quality that meets the standards set by the State and Federal governments
    - Policies AQ-1.1 & 1.2
    - Implementation Programs AQ-IMP-1A, AQ-IMP-1B, & AQ-IMP-1C
- **Goal AQ-2:** Increased awareness and participation throughout the community in efforts to reduce air pollution and enhance air quality.
    - Policies AQ-2.1 through AQ-2.5
    - Implementation Programs AQ-IMP-2A through AQ-IMP-2E
- **Goal AQ-3**: A diverse and energy efficient transportation system incorporating all feasible modes of transportation for the reduction of pollutants.
    - Policies AQ-3.1 & AQ-3.2
    - Implementation Programs AQ-IMP-3A through AQ-IMP-3F

[4] City of Garden Grove. 2008. *2021 General Plan, Air Quality Element*. May. Website: ggcity.org/planning/general-plan (accessed January 2025).

- **Goal AQ-4:** Efficient development that promotes alternative modes of transportation, while ensuring that economic development goals are not sacrificed.
    - Policies AQ-4.1 through AQ-4.3
    - Implementation Programs AQ-IMP-4A through AQ-IMP-4C
- **Goal AQ-5:** An improved balance of residential, commercial, industrial, recreational, and institutional uses to satisfy the needs of the social and economic segments of the population. Work towards clean air while still permitting reasonable planned growth.
    - Policies AQ-5.1 through AQ-5.7
    - Implementation Program AQ-IMP-5A
- **Goal AQ-6:** Increased energy efficiency and conservation.
    - Policies AQ-6.1 through AQ-6.2
    - Implementation Programs AQ-IMP-6A through AQ-IMP-6H
- **Goal AQ-7:** Reduced particulate emissions from paved and unpaved roads, parking lots, and building construction
    - Policies AQ-7.1 through AQ-7.5
    - Implementation Programs AQ-IMP-7A & AQ-IMP-7B

Greenhouse Gas Emissions

This section describes regulations related to GHG emissions at the federal, State, and local levels.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA.

Although there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 to implement a regulatory approach to global climate change, including the 2009 EPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the EPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that seven GHGs (CO_2, CH_4, N_2O, HFCs, NF_3, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

State Regulations

CARB is the lead agency for implementing GHG regulations in the State. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is Assembly Bill (AB) 32, passed by the State Legislature on August 31, 2006. This effort set a target to reduce GHG emissions to 1990 levels by 2020. CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) of CO_2e. The emission target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. CARB approved the Scoping Plan on December 11, 2008, which contains the main strategies California will implement to achieve the reduction goals and includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020 and sets the groundwork to reach long-term goals set forth in Executive Orders (EO) S-3-05 and B-16-2012. The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[5] to reflect the 2030 target that was set by EO B-30-15 and codified by Senate Bill (SB) 32.

The 2022 Scoping Plan[6] was approved in December 2022 and assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping

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5 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

6 CARB. 2022. *California's 2022 Scoping Plan for Achieving Carbon Neutrality*. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025).

Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California be zero-emission by 2035 and that all other fleets transition to zero-emission as fully as possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

Senate Bill 375 (2008). Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). CARB may update the targets every 4 years and must update them every 8 years. MPOs, in turn, must demonstrate how their plans, policies, and transportation investments meet the targets set by CARB through Sustainable Community Strategies (SCSs). The SCSs are included with the Regional Transportation Plan (RTP), a report required by State law. However, if an MPO finds that its SCS will not meet the GHG reduction targets, it may prepare an Alternative Planning Strategy. The Alternative Planning Strategy identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015). Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent
- Increase energy efficiency in buildings by 50 percent by the year 2030

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other nonrenewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under existing law. The addition made by this legislation requires State energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016, the Legislature passed, and the Governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emission reduction target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change analysis of the emission trajectory that would stabilize atmospheric GHG concentrations at 450 ppm CO_2e and reduce the likelihood of catastrophic impacts from climate change.

AB 197, the companion bill to SB 32, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emission data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's renewable portfolio standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18.EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning that, not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279. AB 1279 was signed in September 2022 and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85 percent compared to 1990 levels by 2045 and directs CARB to work with relevant State agencies to achieve these goals.

Title 24, Building Efficiencies Standards, and the California Green Building Standards Code. In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen) (California Code of Regulations Title 24, Part 11), which sets performance standards for residential and nonresidential development to reduce environmental impacts and to encourage sustainable construction practices. CALGreen addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. CALGreen is updated every 3 years and was most recently updated in 2022 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2023.

Regional Regulations

Southern California Association of Governments. The Southern California Association of Governments (SCAG) is a regional council consisting of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. In total, the SCAG region encompasses 191 cities and more than 38,000 square miles within Southern California. SCAG is the MPO serving the region under federal law and serves as the Joint Powers Authority, the Regional Transportation Planning Agency, and the Council of Governments under State law. As the Regional Transportation Planning Agency, SCAG prepares long-range transportation plans for the Southern California region, including the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2008 Regional Comprehensive Plan.

On April 4, 2024, SCAG adopted *Connect SoCal 2024 (Regional Transportation Plan/Sustainable Communities Strategy*).[7] In general, the Sustainable Communities Strategy (SCS) outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources. For the SCAG region, CARB has set GHG reduction targets at 8 percent below 2005 per-capita emission levels by 2020 and 19 percent below 2005 per capita emission levels by 2035. The Connect SoCal 2024 lays out a strategy for the region to meet these targets. Overall, the SCS is meant to provide growth strategies that will achieve the regional GHG emission reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high-quality transit areas and livable corridors and creating neighborhood mobility areas to integrate land use and transportation and to plan for more active lifestyles.[8] However, the SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

South Coast Air Quality Management District. In 2008, the SCAQMD formed a Working Group to identify GHG emission thresholds for land use projects that could be used by local lead agencies in the SCAQMD.[9] The Working Group developed several different options that are contained in the SCAQMD 2008 draft guidance document titled *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* (2008) that could be applied by lead agencies. On September 28, 2010, SCAQMD Working Group Meeting No. 15 provided further guidance, including a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. SCAQMD has not presented a finalized version of these thresholds to the governing board.

SCAQMD identifies the emission level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the use of a service population represents the rates of emissions needed to achieve a fair share of the State's

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7 Southern California Association of Governments (SCAG). 2024. *Connect SoCal 2024*. Website: scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf (accessed January 2025).

8 *Ibid*.

9 SCAQMD. 2024. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds (accessed January 2025).

mandated emission reductions. Overall, SCAQMD identifies a GHG efficiency level that, when applied statewide or to a defined geographic area, would meet the 2020 and post-2020 emission targets required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State would be able to accommodate expected population growth and achieve economic development objectives while also abiding by AB 32's emission target and future post-2020 targets. The SCAQMD has established a flowchart for evaluating GHG significance and indicates that when a project is exempt from California Environmental Quality Act (CEQA), no further analysis is required. SCAQMD's GHG approach has been upheld in court. (Upland Community First v. City of Upland (2004) 105 Cal. App 5th 1, 22.)

METHODOLOGY

Construction Emissions

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include general construction operations inside the existing building. The emissions generated from these construction activities include fuel combustion from mobile heavy-duty, diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips.

LSA used the California Emissions Estimator Model version 2022.1 (CalEEMod) computer program to calculate emissions from on-site construction equipment and emissions from construction worker and vehicle trips to the site using the land use type of General Office Building. As mentioned in the Project Location and Description section, construction of the proposed project would include building construction and architectural coating activities confined entirely to the interior of the existing building, which would begin in 2025 and last for approximately 7 months. No exterior construction is proposed as part of the project. This analysis assumes the CalEEMod default average tier level for certified diesel engines for all construction equipment. This analysis also assumes that the proposed project would comply with applicable SCAQMD Rule 403 measures for all activities that would take place outside, such as construction material deliveries. All other construction details are not yet known; therefore, default assumptions (e.g., construction equipment, construction worker and truck trips, and fleet activities) from CalEEMod were used.

Operational Emissions

This air quality analysis includes estimating emissions associated with long-term operation of the project. Indirect emissions of criteria pollutants with regional impacts would be emitted by project-generated vehicle trips. In addition, localized air quality impacts (i.e., higher CO concentrations or "hot-spots") near intersections or roadway segments in the project vicinity could also potentially occur due to project-generated vehicle trips.

Consistent with SCAQMD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project. As previously discussed in the Project Location and Description section, the proposed project would construct a 10,338 sf mezzanine for additional office space. As mentioned above, the proposed project analysis was conducted using the land use

type of *General Office Building.* Trip generation rates used in CalEEMod for the project were based on the project's trip generation analysis, which identifies that the project would generate approximately 112 net new average daily trips.[10] When project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions.

Greenhouse Gas Emissions

GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term GHG emissions associated with project-related vehicular trips. To determine the project's potential contribution to GHG emissions, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and other significant sources of emissions within the project area were calculated. The CalEEMod results were used to quantify GHG emissions potentially generated by the project.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would have a significant adverse air quality impact if project-generated pollutant emissions would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is in nonattainment under applicable NAAQS or CAAQS;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

Certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, the *CEQA Air Quality Handbook*[11] with associated updates, were followed in this assessment of air quality impacts for the proposed project.

Regional Emissions Thresholds

SCAQMD has established daily emission thresholds for construction and operation of proposed projects. The emission thresholds were established based on the attainment status of the South Coast Air Basin ("Basin") with regard to air quality standards for specific criteria pollutants. Table C lists the CEQA significance thresholds for construction and operational emissions established for the SCAQMD.

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10 LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project.* January 17.

11 SCAQMD. 1993. *CEQA Air Quality Handbook.* Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed January 2025).

Table C: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOCs	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: South Coast Air Quality Management District (SCAQMD). 2019. Air Quality Significance Thresholds. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf (accessed January 2025).

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compound

Projects in the SCAQMD with construction- or operations-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. These thresholds, which the SCAQMD developed, and which apply throughout the Basin, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

CO Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the project vicinity are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the SCAQMD, a project would be considered to have a significant CO impact if project emissions would result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Localized Impact Analysis

The SCAQMD published its *Final Localized Significance Threshold Methodology* in July 2008, recommending that all air quality analyses include an assessment of air quality impacts to nearby sensitive receptors.[12] This guidance was used to analyze potential localized air quality impacts associated with construction of the proposed project. Localized significance thresholds (LSTs) are developed based on the size or total area of the emission source, the ambient air quality in the Source Receptor Area (SRA), and the distance to the project. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The nearest sensitive receptors include residences west of the project site approximately 160 feet from the existing building, within 80 feet of the project boundaries.

[12] SCAQMD. 2008. *Final Localized Significance Threshold Methodology.* July. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds (accessed January 2025).

LSTs are based on the ambient concentrations of that pollutant within the project's SRA and the distance to the nearest sensitive receptor. For the proposed project, the appropriate SRA for the LST is the North Coastal Orange County area (SRA 18). The SCAQMD provides LST screening tables for 25-, 50-, 100-, 200-, and 500-meter source-receptor distances. In cases where receptors may be closer than 82 feet (25 meters), any distances within the 82-foot buffer zone can be used. As such, to provide a conservative assessment, the minimum distance of 25 meters was used for purposes of the LST assessment. The project site is 0.35 acre; therefore, it is assumed that the maximum daily disturbed acreage would be 0.35 acre for construction and operation of the proposed project.[13] Table D lists the emission thresholds that apply during project construction and operation.

Table D: SCAQMD Localized Significance Thresholds

Emissions Source	Pollutant Emissions Threshold (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction (0.35 acre 25-meter distance)	67	442	2.1	1.7
Operations (0.35 acre, 25-meter distance)	67	442	0.35	0.35

Source: *Final Localized Significance Threshold Methodology* (SCAQMD, July 2008).

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District

Greenhouse Gas Thresholds

Appendix G of the *State CEQA Guidelines* includes significance thresholds for GHG emissions. A project would normally have a significant effect on the environment if it would do either of the following:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

[13] SCAQMD. n.d. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed January 2025).

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group).[14] Based on the last Working Group meeting held in September 2010 (Meeting No. 15), SCAQMD proposed to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1—Exemptions:** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2—Consistency with a Locally Adopted GHG Reduction Plan:** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3—Numerical Screening Threshold:** If GHG emissions are less than the numerical screening-level threshold, project-level and cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD, under Option 1, is proposing a "bright-line" screening-level threshold of 3,000 metric tons (MT) of CO_2e (or MT CO_2e) per year (or MT CO_2e/year) for all land use types or, under Option 2, the following land use-specific thresholds: 1,400 MT CO_2e for commercial projects, 3,500 MT CO_2e for residential projects, or 3,000 MT CO_2e for mixed-use projects. This bright-line threshold is based on a review of the Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal and therefore less than cumulatively considerable impact on GHG emissions.

- **Tier 4—Performance Standards:** If emissions exceed the numerical screening threshold, a more detailed review of the project's GHG emissions is warranted. The SCAQMD has proposed an efficiency target for projects that exceed the bright-line threshold. The current recommended approach is per-capita efficiency targets. The SCAQMD is not recommending use of a percentage emissions reduction target. Instead, the SCAQMD proposes proposed a 2020 efficiency target of 4.8 MT CO_2e/year per service population for project-level analyses and 6.6 MT CO_2e/year per service population for plan-level projects (e.g., program-level projects such as General Plans).

For the purpose of this analysis, the proposed project will be compared to the Tier 3 threshold of 3,000 MT CO_2e/year for all land use types. The project is also evaluated for compliance with the 2022 Scoping Plan and SCAG's RTP/SCS.

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[14] SCAQMD. 2024. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds (accessed January 2025).

IMPACT ANALYSIS

This section identifies potential air quality and GHG impacts associated with implementation of the proposed project.

Air Quality Impacts

Potential air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from project-related vehicular trips and energy consumption.

Consistency with Applicable Air Quality Plans

A consistency determination plays an essential role in local agency project review by linking local planning and unique, individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The proposed project would include a modification to an existing building to add 10,338 sf mezzanine for additional office space. The proposed project is not considered a project of statewide, regional, or area-wide significance (e.g., large-scale projects such as airports, electrical generating facilities, petroleum and gas refineries, residential development of more than 500 dwelling units, or shopping centers or business establishments employing more than 1,000 persons or encompassing more than 500,000 sf of floor space) as defined in the California Code of Regulations (Title 14, Division 6, Chapter 3, Article 13, §15206(b)). Because the proposed project would not be defined as a regionally significant project under CEQA, it does not meet the SCAG Intergovernmental Review criteria.

The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space would increase the FAR to 0.53. For the project site to remain in compliance with the General Plan Land Use designation and associated maximum FAR, an amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. Under the proposed amendment, five parcels (APNs 215-014-01, 215-014-02, 215-012-07, 215-012-08, and 215-013-01) would be included within the new Subarea B, which would allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5. The project site is at APN 215-014-01; therefore, the proposed General Plan amendment would increase the allowable industrial FAR on the project site from 0.5 to 0.55.

The City's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD Air Quality Management Plan (AQMP). Pursuant to the methodology provided in the SCAQMD *CEQA Air Quality Handbook*, consistency with the Basin's 2022 AQMP is affirmed when a project (1) would not increase the frequency or severity of an air quality standard violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented as follows:

1. The project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated below; therefore, the project would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standards violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant.

   The proposed project is an industrial/commercial mixed-use development consisting of the construction of 10,338 sf of mezzanine office space within the existing 173,080 sf building. Since the project is not proposing residential uses, there would be no new generation of residents in Garden Grove. The proposed project may generate an additional 10 to 15 employees, which could potentially be filled by existing residents of the City, thereby resulting in a negligible increase to the total population of Garden Grove. This potential employment growth is well within the projected employee growth for the City of 4,300 employees by 2035. In addition, the number of employees is limited by the capacity of parking lot spaces, which would not change under the proposed project. As such, implementation of the proposed project is consistent with planned growth within Garden Grove, and the proposed project would not directly or indirectly induce growth in Garden Grove. Thus, the proposed project would be consistent with the City's General Plan and Zoning Ordinance.

Based on the consistency analysis presented above, the proposed project would be consistent with the regional AQMP.

Criteria Pollutant Analysis The Basin is currently designated nonattainment for the federal and State standards for 8-hour O_3 and PM_{10}. The Basin is also nonattainment for the State standard for 1-hour O_3. The Basin's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of an ambient air quality standard. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is not necessary. The following analysis assesses the potential project-level air quality impacts associated with construction and operation of the proposed project.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by building construction, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_X, VOCs, directly emitted $PM_{2.5}$ or PM_{10}, and toxic air contaminants such as diesel exhaust particulate matter.

Project construction activities would include building construction and architectural coating.

SCAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of particulate matter generated during the construction period. Rule 403 measures that were incorporated in this analysis include:

- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.

- Reduce traffic speeds on all unpaved roads to 15 mph or less.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_X, NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod and are summarized in Table E (CalEEMod output sheets are provided in Attachment C).

The results shown in Table E indicate the proposed project would not exceed the significance criteria for daily VOCs, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Table E: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$
Building Construction	0.9	8.6	12.0	<0.1	0.5	0.4
Architectural Coating	1.9	0.9	1.2	<0.1	<0.1	<0.1
Peak Daily Emissions	**2.8**	**9.5**	**13.2**	**<0.1**	**0.6**	**0.5**
SCAQMD Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Some values may not appear to add correctly due to rounding.

Table E: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Operational Air Quality Impacts. Long-term air pollutant emissions associated with operation of the proposed project include emissions from area, energy, and mobile sources.

Mobile-source emissions are from vehicle trips associated with operation of the project. Mobile source emissions include VOC and NO_X emissions that contribute to the formation of O_3. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways.

Energy-source emissions generally result from activities in buildings that use natural gas. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source. However, the proposed project would not use natural gas. Therefore, energy-source emissions would be minimal.

Area-source emissions consist of direct sources of air emissions at the project site, generally including architectural coatings, consumer products, and use of landscape maintenance equipment.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Table F provides the estimated existing emission estimates and the proposed project's estimated operational emissions.

The results shown in Table F indicate the proposed project would not exceed the significance criteria for daily VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Table F: Project Operational Emissions

Emission Type	Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	0.4	0.3	3.3	<0.1	0.8	0.2
Area Sources	0.3	<0.1	0.5	<0.1	<0.1	<0.1
Energy Sources	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Project Emissions	**0.7**	**0.4**	**3.8**	<0.1	**0.8**	**0.2**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Long-Term Microscale CO Hot-Spot Analysis. Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the vicinity of the proposed project site. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited. Under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, thereby affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients).

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the 1630 West Pampas Lane station in Anaheim (the closest station to the project site) showed a highest recorded 1-hour concentration of 2.5 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.6 ppm (the State standard is 9 ppm) from 2021 to 2023. The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Reduced speeds and vehicular congestion at intersections result in increased CO emissions.

The proposed project is expected to generate 112 new average daily weekday trips, with 16 net new trips occurring in the a.m. peak hour and 14 net new trips occurring in the p.m. peak hour.[15] This level of traffic increase would not result in any traffic impacts or substantially alter the existing

[15] LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project.* January 17.

traffic flows and their associated CO concentrations. Therefore, given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any intersections, project-related vehicles are not expected to result in CO concentrations exceeding the State or federal CO standards. No CO hot-spots would occur, and the project would not result in any project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as people who have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling units. The nearest sensitive receptors include residences west of the project site approximately 175 feet from the project site boundaries. An LST analysis was completed to show the construction and operational impacts at 53 meters (175 feet) to the nearest sensitive receptors to the project site in SRA 17, based on a 1-acre daily disturbance area for construction and project site for operation. Table G shows the results of the LST analysis during project construction and operation.

Table G: Project Localized Construction and Operational Emissions

Source	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction Emissions				
On-Site Emissions	8.6	11.8	0.5	0.4
Localized Significance Threshold	**84**	**776**	**13**	**4**
Significant?	**No**	**No**	**No**	**No**
Operational Emissions				
On-Site Emissions	0.1	0.7	<0.1	<0.1
Localized Significance Threshold	**84**	**776**	**3**	**1**
Significant?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Source Receptor Area 17, based on a 1 -acre construction disturbance daily area and project site for operation, at a distance of 53 meters (175 feet) from the project boundary.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

By design, the localized impact analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions detailed in Table G assume all area- and energy-source emissions would occur on site, and 5 percent of the project-related new mobile sources (which is an estimate of the amount of project-related on-site vehicle and truck travel) would occur on site. Considering the total trip length included in CalEEMod (from 6 to 16 miles), and that the distance traveled on site would be a few hundred feet, the 5 percent assumption is conservative. Table G indicates the localized operational emissions would not exceed the LSTs at nearby residences. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

As detailed in Table G, the emission levels indicate that the project would not exceed SCAQMD LSTs during project construction or operation. The project's peak operational on-site NO_X emissions would be less than 1 pound per day. Due to the small size of the proposed project in relation to the overall Basin, the level of emissions is not sufficiently high enough to use a regional modeling

program to correlate health effects on a Basin-wide level. On a regional scale, the quantity of emissions from the project is incrementally minor. Because the SCAQMD has not identified any other methods to quantify health impacts from small projects, and due to the size of the project, it is speculative to assign any specific health effects to small project-related emissions. However, based on this localized analysis, the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the project would not expose sensitive receptors to substantial levels of pollutant concentrations.

Odors

Heavy-duty equipment on the project site during construction would emit odors, primarily from equipment exhaust. However, the construction activity would cease after construction is completed. No other sources of objectionable odors have been identified for the proposed project.

SCAQMD Rule 402 regarding nuisances states, "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." The proposed office? uses are not anticipated to emit any objectionable odors. Therefore, the proposed project would not result in other emissions (e.g., those leading to odors) adversely affecting a substantial number of people.

Greenhouse Gas Emission Impacts

The following sections describe the proposed project's construction- and operation-related GHG impacts and consistency with applicable GHG reduction plans.

Generation of Greenhouse Gas Emissions

This section describes the proposed project's construction- and operation-related GHG emissions.

Construction Greenhouse Gas Emissions. Construction activities associated with the proposed project would produce combustion emissions from various sources. Construction would emit GHGs through the operation of construction equipment and from worker and builder supply vendor vehicles for the duration of the approximately 7-month construction period. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, the fueling of heavy equipment emits CH_4. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As indicated above, SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then recommends the construction GHG emissions to be amortized over the life of the project (with 30 years assumed to be representative), added to the operational emissions, and compared to the applicable interim GHG significance threshold tier. Based on the CalEEMod analysis, it is estimated that the project would generate 142 MT CO_2e during construction of the project. When amortized over the 30-year life of the project, annual emissions would be 4.7 MT CO_2e.

Operational Greenhouse Gas Emissions. Long-term operation of the proposed project would generate GHG emissions from area, mobile, waste, and water sources, as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with the proposed project. Area-source emissions would be associated with activities such as maintenance on the project site and other sources. Waste-source emissions generated by the proposed project include energy generated by landfilling and other methods of disposal related to transporting and managing project-generated waste. Water-source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment. In addition, refrigerant emissions result from equipment leaks related to air conditioning and refrigeration.

GHG emissions were estimated using CalEEMod. Table H shows the estimated operational GHG emissions for the proposed project. Motor vehicle emissions are the largest source of GHG emissions for the project, at approximately 61 percent of the project total. Energy sources are the next largest category, at approximately 34 percent. Waste sources are about 2 percent, water sources are about 3 percent, area and refrigerant make up less than 1 percent of the total emissions combined.

Table H: Greenhouse Gas Emissions

Emission Type	Operational Emissions (MT/yr)					
	CO_2	CH_4	N_2O	Refrigerant	CO_2e	Percentage of Total
Mobile Source	102.1	<0.1	<0.1	0.2	103.7	60.6
Area Source	0.2	<0.1	<0.1	<0.1	0.2	0.1
Energy Source	58.4	<0.1	<0.1	<0.1	58.6	34.3
Water Source	3.6	<0.1	<0.1	<0.1	5.5	3.2
Waste Source	0.9	<0.1	<0.1	<0.1	3.0	1.8
Refrigerant Source				<0.1	<0.1	<0.1
Total Operational Emissions					**171.0**	
Amortized Construction Emissions					4.7	—
Total Annual Emissions					**175.7**	**—**
SCAQMD Threshold					**3,000**	
Exceedance?					**No**	

Source: Compiled by LSA (July 2024).
Figures may not appear to add correctly due to rounding.
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
SCAQMD = South Coast Air Quality Management District

As discussed above, a project would have less than significant GHG emissions if it would result in operational GHG emissions of less than the SCAQMD threshold of 3,000 MT CO_2e/year. Based on the analysis results, the proposed project would generate 176 MT CO_2e/year, which is well below the SCAQMD's 3,000 MT CO_2e/year threshold. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment.

Consistency with Greenhouse Gas Reduction Plans

The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan and SCAG's 2024–2050 RTP/SCS.

2022 Scoping Plan. EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reduction target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. CARB released the 2017 Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.[16] SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. AB 197, the companion bill to SB 32, provides additional direction to CARB that is related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 that is intended to provide easier public access to air emission data collected by CARB was posted in December 2016. AB 1279 codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter.

In addition, the 2022 Scoping Plan[17] assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

- **Energy-efficient measures** are intended to maximize energy-efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would comply with the latest Title 24 standards regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

- **Water conservation and efficiency measures** are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest Title 24 standards, which include a variety of different measures, including reduction of wastewater and water use. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

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16 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

17 CARB. 2022. *California's 2022 Scoping Plan for Achieving Carbon Neutrality*. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025)

- **Transportation and motor vehicle measures** are intended to develop regional GHG emission reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

The proposed project would comply with existing State regulations adopted to achieve the overall GHG emission reduction goals identified in the 2022 Scoping Plan, EO B-30-15, SB 32, AB 197, and AB 1279.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy. SCAG's Connect SoCal 2024[18] (RTP/SCS) identifies land use strategies that focus on new housing and job growth in areas served by high-quality transit and other opportunity areas that would be consistent with a land use development pattern that supports and complements the proposed transportation network. The core vision in the Connect SoCal 2024 is to better manage the existing transportation system through design management strategies, integrate land use decisions and technological advancements, create complete streets that are safe for all roadway users, preserve the transportation system, and expand transit and foster development in transit-oriented communities. The Connect SoCal 2024 contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as providing a forecast development pattern that is generally consistent with regional-level General Plan data. The forecast development pattern, when integrated with the financially constrained transportation investments identified in Connect SoCal 2024, would reach the regional target of reducing GHG emissions from automobiles and light-duty trucks by 8 percent by 2020 and 19 percent by 2035 (compared to 2005 per capita emission levels). Connect SoCal 2024 does not require that local General Plans, Specific Plans, or zoning be consistent with Connect SoCal 2024, but it provides incentives for consistency for governments and developers.

Implementing SCAG's Connect SoCal 2024 would greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emissions reduction targets. As demonstrated in the Consistency with Applicable Air Quality Plans section, above, the proposed project does not meet the criteria identified in *State CEQA Guidelines* Section 15205.b.2 (Projects of Statewide, Regional, or Areawide Significance) for projects of statewide, regional, or area-wide significance. In addition, the proposed project would not require a change to the General Plan land use designation or the current zoning, and would be consistent with the City's General Plan and Zoning Ordinance. As such, the proposed project would not interfere with SCAG's ability to achieve the region's GHG reduction target of 19 percent below 2005 per capita emissions levels by 2035. Furthermore, the proposed project is not regionally significant per *State CEQA Guidelines* Section 15206 and, as such, it would not conflict with the SCAG Connect SoCal 2024 targets, since those targets were are applicable on a regional level.

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[18] Southern California Association of Governments (SCAG). 2024. Connect SoCal 2024. April. Website: scag.ca.gov/connect-socal (accessed January 2025).

The proposed project would include a General Plan Amendment to allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5 to allow for the planned construction of a 10,338 sf mezzanine for additional office space. As the changes to the operations would be minimal, the project would remain consistent with existing local and regional planning assumptions for the project site. Furthermore, as discussed above, the potential growth associated with the increase in employees at the proposed project site would be within the growth projections included in Connect SoCal 2024. Therefore, it is anticipated that implementation of the proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in the Connect SoCal 2024.

CONCLUSION

Based on the analysis presented above, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance. Compliance with SCAQMD Rule 403: Fugitive Dust would further reduce construction dust impacts. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The project would also be consistent with the 2022 AQMP. The project would not result in objectionable odors affecting a substantial number of people. GHG emissions released during construction and operation of the project are estimated to be minimal and would not be cumulatively considerable. The proposed project would generally be consistent with both the 2022 Scoping Plan and SCAG Connect SoCal 2024.

Attachments:
- A: References
- B: Figure 1: Project Location
  Figure 2: Site Plan
- C: CalEEMod Output Files

ATTACHMENT A

REFERENCES

California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

_____. 2022. *California's 2022 Scoping Plan for Achieving Carbon Neutrality*. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025).

2023. *iADAM: Air Quality Data Statistics.* Website: www.arb.ca.gov/adam/index.html (accessed January 2025).

City of Garden Grove. 2008. *2021 General Plan, Air Quality Element*. May. Website: ggcity.org/planning/general-plan (accessed January 2025).

LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project*, January.

South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-

_____. 2008. *Final Localized Significance Threshold Methodology.* July. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds (accessed January 2025).

_____. 2019. Air Quality Significance Thresholds. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf (accessed January 2025).

_____. 2024. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds (accessed January 2025).

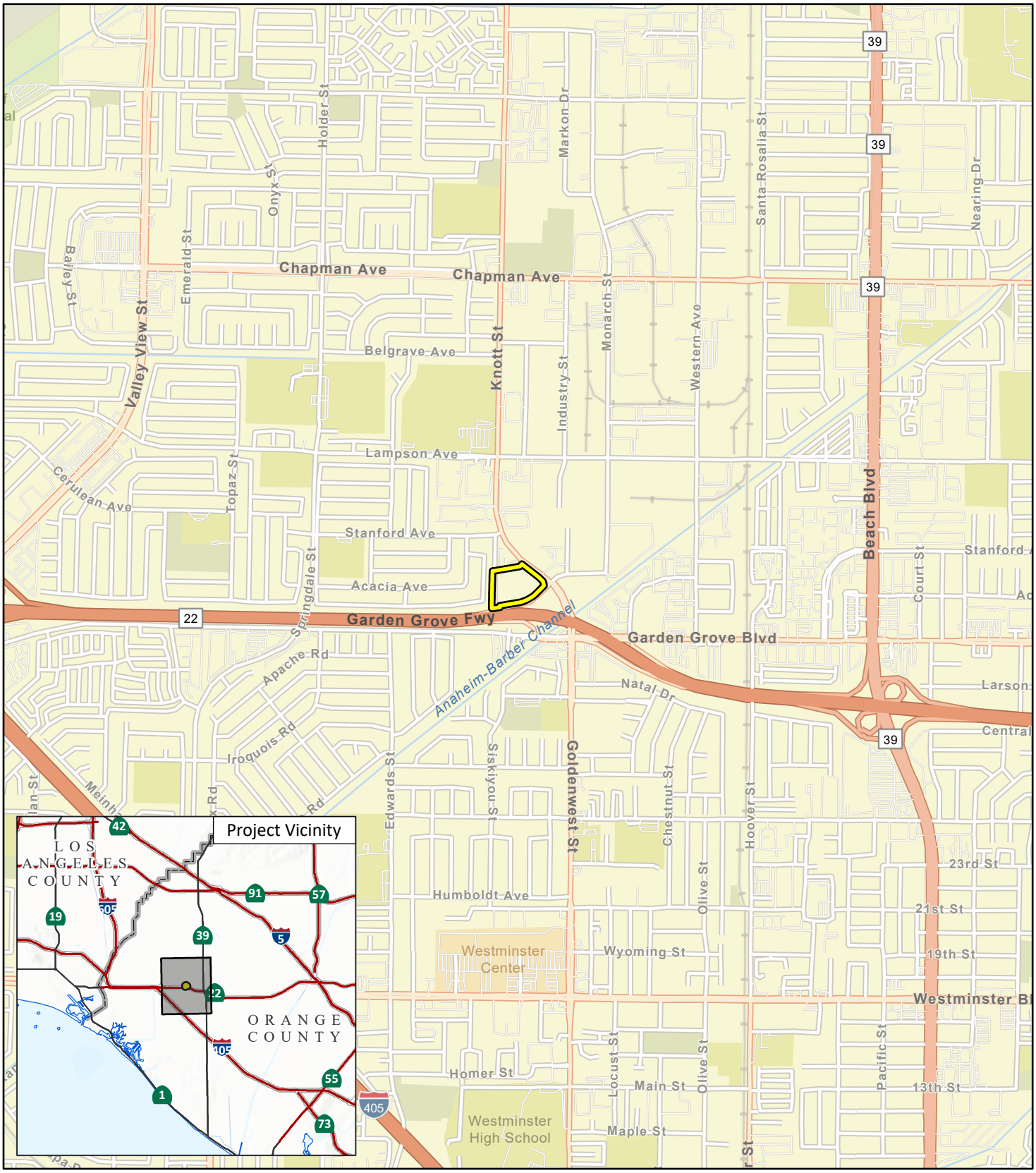
_____. n.d. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed January 2025).

Southern California Association of Governments (SCAG). 2024. *Connect SoCal 2024*. Website: scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf (accessed January 2025).

ATTACHMENT B

FIGURES

Figure 1: Project Location
Figure 2: Site Plan



LSA

Project Site

FIGURE 1

N

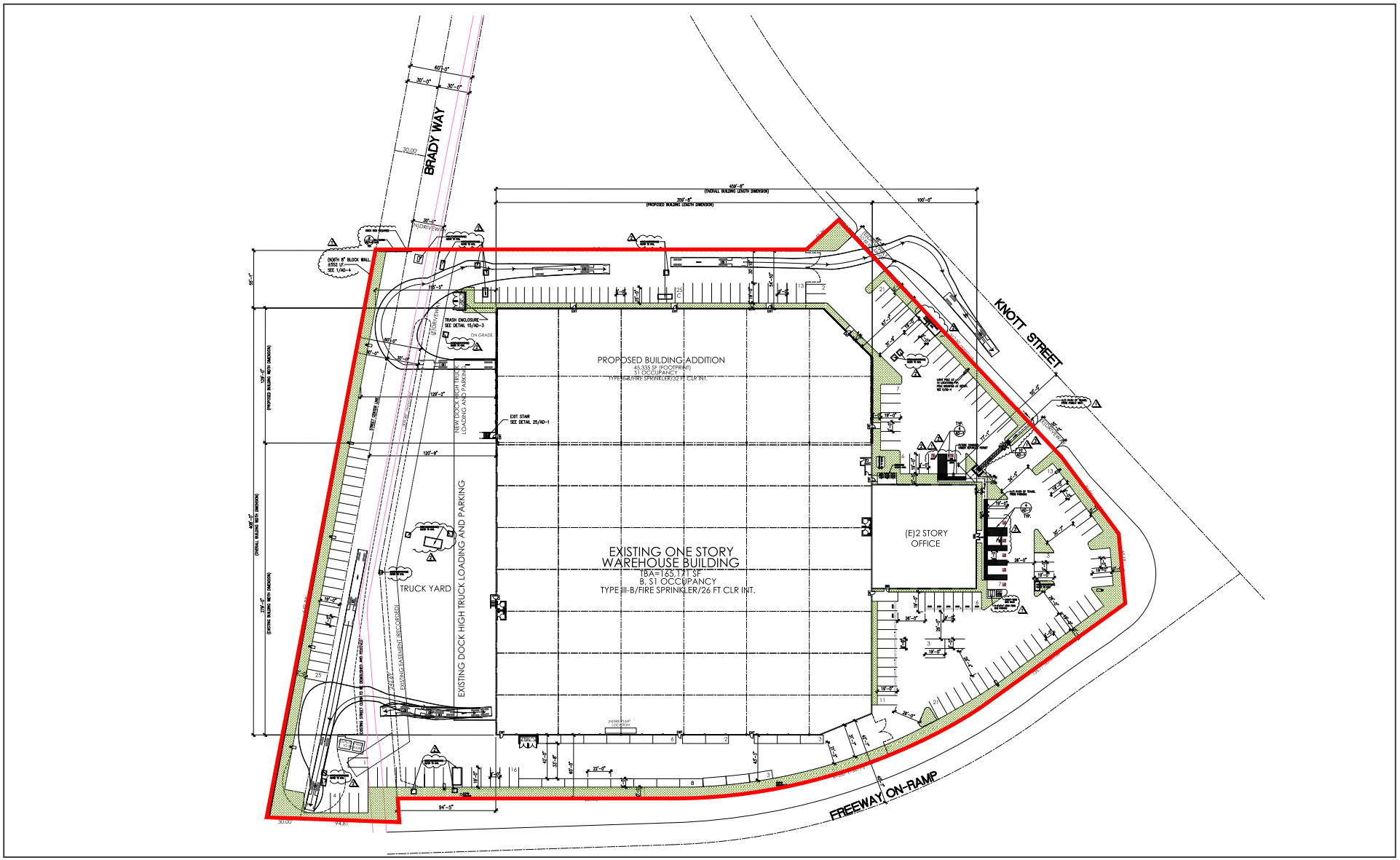
0 1000 2000
FEET

SOURCE: Esri Street Map 2024

I:\2024\20241951\GIS\Pro\12821 Knott Street Project\12821 Knott Street Project.aprx (10/17/2024)

12821 Knott Street Project

Project Location



LSA

LEGEND

Project Site

FIGURE 2

N

0 60 120

FEET

SOURCE: JGC Architecture

I:\2024\20241951\G\Site_Plan.ai (12/26/2024)

12821 Knott Street Project

Site Plan

ATTACHMENT C

CALEEMOD OUTPUT FILES

ATTACHMENT C

CALEEMOD OUTPUT FILES

12821 Knott St (20241951) Custom Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	12821 Knott St (20241951)
Construction Start Date	3/3/2025
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	6.20
Location	33.775745710026854, -118.00955269191351
County	Orange
City	Garden Grove
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5870
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	10.3	1000sqft	0.24	10,338	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.83	9.53	13.2	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,012	2,012	0.08	0.02	0.35	2,021
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.83	9.53	13.1	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,009	2,009	0.08	0.02	0.01	2,018
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.68	3.99	5.52	0.01	0.21	0.03	0.24	0.19	0.01	0.20	—	855	855	0.03	0.01	0.06	859
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.12	0.73	1.01	< 0.005	0.04	< 0.005	0.04	0.03	< 0.005	0.04	—	142	142	0.01	< 0.005	0.01	142
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.83	9.53	13.2	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,012	2,012	0.08	0.02	0.35	2,021
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.83	9.53	13.1	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,009	2,009	0.08	0.02	0.01	2,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.68	3.99	5.52	0.01	0.21	0.03	0.24	0.19	0.01	0.20	—	855	855	0.03	0.01	0.06	859
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.12	0.73	1.01	< 0.005	0.04	< 0.005	0.04	0.03	< 0.005	0.04	—	142	142	0.01	< 0.005	0.01	142

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	0.36	3.76	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,216	1,225	0.94	0.04	3.25	1,264
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.62	0.38	3.08	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,181	1,190	0.94	0.04	0.11	1,227
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.58	0.31	2.69	0.01	0.01	0.58	0.59	0.01	0.15	0.16	8.70	989	998	0.93	0.04	1.07	1,033
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.06	0.49	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	1.44	164	165	0.15	0.01	0.18	171
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.37	0.29	3.25	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	843	843	0.04	0.03	3.22	857

Area	0.32	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.85	1.85	< 0.005	< 0.005	—	1.86
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.02	< 0.005	—	354
Water	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Waste	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.70	0.36	3.76	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,216	1,225	0.94	0.04	3.25	1,264
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.37	0.31	3.02	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	811	811	0.04	0.03	0.08	822
Area	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.02	< 0.005	—	354
Water	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Waste	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.62	0.38	3.08	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,181	1,190	0.94	0.04	0.11	1,227
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.27	0.24	2.33	0.01	< 0.005	0.58	0.58	< 0.005	0.15	0.15	—	617	617	0.03	0.03	1.05	626
Area	0.30	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.27
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.02	< 0.005	—	354
Water	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Waste	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.58	0.31	2.69	0.01	0.01	0.58	0.59	0.01	0.15	0.16	8.70	989	998	0.93	0.04	1.07	1,033
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.04	0.42	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	102	102	< 0.005	< 0.005	0.17	104
Area	0.05	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.21	0.21	< 0.005	< 0.005	—	0.21
Energy	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.4	58.4	< 0.005	< 0.005	—	58.6

Water	—	—	—	—	—	—	—	—	—	—	0.58	3.02	3.60	0.06	< 0.005	—	5.53
Waste	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.11	0.06	0.49	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	1.44	164	165	0.15	0.01	0.18	171

3. Construction Emissions Details

3.1. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	8.58	11.8	0.02	0.46	—	0.46	0.42	—	0.42	—	1,771	1,771	0.07	0.01	—	1,777
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	8.58	11.8	0.02	0.46	—	0.46	0.42	—	0.42	—	1,771	1,771	0.07	0.01	—	1,777
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.83	5.26	0.01	0.20	—	0.20	0.19	—	0.19	—	791	791	0.03	0.01	—	794
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.70	0.96	< 0.005	0.04	—	0.04	0.03	—	0.03	—	131	131	0.01	< 0.005	—	131
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.9	43.9	< 0.005	< 0.005	0.17	44.6
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.0	54.0	< 0.005	0.01	0.15	56.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.8	41.8	< 0.005	< 0.005	< 0.005	42.3
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.0	54.0	< 0.005	0.01	< 0.005	56.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.9	18.9	< 0.005	< 0.005	0.03	19.2
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.1	24.1	< 0.005	< 0.005	0.03	25.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.13	3.13	< 0.005	< 0.005	0.01	3.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.99	3.99	< 0.005	< 0.005	< 0.005	4.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Architectural Coatings	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.78	8.78	< 0.005	< 0.005	0.03	8.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.36	8.36	< 0.005	< 0.005	< 0.005	8.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.37	0.29	3.25	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	843	843	0.04	0.03	3.22	857
Total	0.37	0.29	3.25	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	843	843	0.04	0.03	3.22	857
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.37	0.31	3.02	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	811	811	0.04	0.03	0.08	822
Total	0.37	0.31	3.02	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	811	811	0.04	0.03	0.08	822
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.05	0.04	0.42	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	102	102	< 0.005	< 0.005	0.17	104
Total	0.05	0.04	0.42	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	102	102	< 0.005	< 0.005	0.17	104

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270

Total	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Total	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	44.5	44.5	< 0.005	< 0.005	—	44.6
Total	—	—	—	—	—	—	—	—	—	—	—	44.5	44.5	< 0.005	< 0.005	—	44.6

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Total	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Total	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.9	13.9	< 0.005	< 0.005	—	13.9
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.9	13.9	< 0.005	< 0.005	—	13.9

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.85	1.85	< 0.005	< 0.005	—	1.86
Total	0.32	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.85	1.85	< 0.005	< 0.005	—	1.86
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.21	0.21	< 0.005	< 0.005	—	0.21
Total	0.05	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.21	0.21	< 0.005	< 0.005	—	0.21

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Total	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Total	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.58	3.02	3.60	0.06	< 0.005	—	5.53

Total	—	—	—	—	—	—	—	—	—	—	0.58	3.02	3.60	0.06	< 0.005	—	5.53

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Total	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Total	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00
Total	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	3/3/2025	10/15/2025	5.00	163	—
Architectural Coating	Architectural Coating	8/4/2025	10/15/2025	5.00	53.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	3.31	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.69	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.66	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	15,507	5,169	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	112	22.8	7.24	30,769	1,087	222	70.2	298,505

5.10. Operational Area Sources

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	15,507	5,169	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	184,226	532	0.0330	0.0040	262,032

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	1,837,411	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	9.61	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition planned, only internal renovations. Assume architectural coatings applied during the building construction phase.
Construction: Off-Road Equipment	Adjusted equipment for internal renovation work only.
Operations: Vehicle Data	Set weekday trip rate to match the project's traffic study of 112 trips per day. Left the weekend trip rates at CalEEMod defaults.

APPENDIX B

NOISE AND VIBRATION IMPACT ANALYSIS MEMORANDUM

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CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 19, 2025

TO: Priit Kaskla, Associate Planner

FROM: Jason Lui, Associate/Senior Noise Specialist

SUBJECT: Noise and Vibration Impact Analysis for the Warehouse Project at 12821 Knott Street, Garden Grove, California

INTRODUCTION

This Noise and Vibration Impact Analysis has been prepared to evaluate the potential noise and vibration impacts associated with the proposed 12821 Knott Street Warehouse Project (project) in Garden Grove, California. This memorandum has been prepared in compliance with the requirements of the City of Garden Grove (City) and the California Environmental Quality Act (CEQA). All references cited in this memorandum are included in Attachment A.

PROJECT LOCATION

The proposed project is located within a highly urbanized area at 12821 Knott Street (Assessor's Parcel Number [APN] 215-014-01) in Garden Grove, California. Regional access to the project site is provided by State Route 22 (SR-22), located immediately south of the project site, and Knott Street, located immediately east of the project site. Figure 1 (all figures are provided in Attachment B) shows the project location.

PROJECT DESCRIPTION

The proposed project includes the construction of an additional approximately 10,338 square feet (sf) of mezzanine office space within the existing 173,000 sf building. Construction is anticipated to begin in 2025 and last for approximately 7 months. No exterior construction or revisions to the existing parking lot are proposed. All construction staging would be contained within the existing building, and all construction equipment would access the site from Knott Street on the east side of the project site. The project site's zoning (PUD 104-70 (REV. 2019)) allows for the current use, and the current use would not change with implementation of the proposed project. Figure 2 shows the proposed site plan.

CHARACTERISTICS OF SOUND

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Decibels (dB), unlike the linear scale (e.g., inches or pounds), are measured on a logarithmic scale, which is a scale based on powers of 10.

For example, 10 dB is 10 times more intense than 0 dB, 20 dB is 100 times more intense than 0 dB, and 30 dB is 1,000 times more intense than 0 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 0 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations), the sound decreases 3 dB for each doubling of distance in a hard site environment; however, line source noise in a relatively flat environment with absorptive vegetation decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average noise level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to

the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. L_{max} is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear (the threshold of pain). A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less developed areas. Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

Table A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of measurement that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter deemphasizes the very low- and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. (All sound levels in this report are A-weighted unless reported otherwise.)
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dBA to sound levels occurring in the evening from 7:00 PM to 10:00 PM and after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time; usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

Source: *Handbook of Acoustical Measurements and Noise Control* (Harris 1991).

Table B: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	—
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	—
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	—
Near Freeway Auto Traffic	70	Moderately Loud	—
Average Office	60	Quiet	One-half as loud
Suburban Street	55	Quiet	—
Light Traffic; Soft Radio Music in Apartment	50	Quiet	One-quarter as loud
Large Transformer	45	Quiet	—
Average Residence without Stereo Playing	40	Faint	One-eighth as loud
Soft Whisper	30	Faint	—
Rustling Leaves	20	Very Faint	—
Human Breathing	10	Very Faint	Threshold of Hearing
—	0	Very Faint	—

Source: Compiled by LSA (2015).

FUNDAMENTALS OF VIBRATION

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 vibration velocity decibels (VdB) or less. This is an order of magnitude below the damage threshold for normal buildings. Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) from the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (see the Federal Transit Administration's [FTA] 2018 *Transit Noise and Vibration Impact Assessment Manual*). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, both construction of a project and freight train operations on railroad tracks could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path will usually be greater than ground-borne noise. Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause cosmetic building damage, it is not uncommon for heavy duty construction processes (e.g., blasting and pile driving) to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where "L_v" is the VdB, "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or 1×10^{-6} inches/second (in/sec) used in the United States.

REGULATORY SETTING

Federal Guidelines

Federal Transit Administration

Noise. The construction noise criteria included in the *Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual* (2018) were used to evaluate potential construction

noise impacts because the City does not have construction noise level limits. Table C shows the FTA's Detailed Assessment Daytime Construction Noise Criteria based on the composite noise levels for each construction phase.

Table C: Detailed Assessment Daytime Construction Noise Criteria

Land Use	Daytime 1-hour L_{eq} (dBA)
Residential	80
Commercial	85
Industrial	90

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

Vibration. Vibration standards included in the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) were used to evaluate vibration impacts because the City does not have vibration standards. Table D provides the criteria for assessing the potential for interference or annoyance from vibration levels in a building, while Table E lists the potential vibration building damage criteria associated with construction activities.

Table D: Interpretation of Vibration Criteria for Detailed Analysis

Land Use	Maximum L_v (VdB)[1]	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration.
Residential Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20×).
Residential Night and Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100×) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] As measured in ⅓-octave bands of frequency over the frequency range 8 to 80 Hertz.
FTA = Federal Transit Administration VdB = vibration velocity decibels
L_V = velocity in decibels

Table E: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Nonengineered-timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
FTA = Federal Transit Administration PPV = peak particle velocity
in/sec = inches per second

Local Regulations

City of Garden Grove

General Plan. The City's General Plan Noise Element (City of Garden Grove 2008) has established noise and land use compatibility guidelines for various land uses (shown in Table F), as well as policies and implementation programs to meet the City's noise-related goals. As shown in Table F, a noise level of up to 70 dBA CNEL is the upper limit of what is considered a "normally acceptable" noise environment, and a noise level of up to 77.5 dBA CNEL is the upper limit of what is considered a "conditionally acceptable" noise environment for office, business, and commercial uses. Also, a noise level of up to 75 dBA CNEL is the upper limit of what is considered a "normally acceptable" noise environment, and a noise level of up to 80 dBA CNEL is the upper limit of what is considered a "conditionally acceptable" noise environment for industrial uses. The applicable General Plan Noise Element goals, policies, and implementation programs for the proposed project are listed below.

Table F: Noise and Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (dBA L_{dn} or CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential—Low-Density, Single-Family, Duplex, Mobile Homes	50–60	55–70	70–75	75–85
Residential—Multiple-Family	50–65	60–70	70–75	70–85
Transient Lodging—Motels, Hotels	50–65	60–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	80–85
Auditoriums, Concert Halls, Amphitheaters	N/A	50–70	N/A	65–85
Sports Arenas, Outdoor Spectator Sports	N/A	50–75	N/A	70–85
Playgrounds, Neighborhood Parks	50–70	N/A	67.5–75	72.5–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–70	N/A	70–80	80–85
Office Buildings, Business Commercial and Professional	50–70	67.5–77.5	75–85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	75–85	N/A

Source: City of Garden Grove General Plan Noise Element (City of Garden Grove 2008).
Normally Acceptable—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable—New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable—New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable—New construction or development should generally not be undertaken.
N/A = Not Applicable

Goal N-1: Noise consideration must be incorporated into land use planning decisions.

Policy N-1.2: Incorporate a noise assessment study into the environmental review process, when needed for a specific project for the purposed of identifying potential noise impacts and noise abatement procedures

Policy N-1.3: Require noise reduction techniques in site planning, architectural design, and construction, where noise reduction is necessary consistent with the standards in Tables 7-1 (Table F) and 7-2 (Table G), Title 24 of the California Code of Regulations, and Section 8.47 of the Municipal Code.

N-IMP-1B Require that new commercial, industrial, any redevelopment project, or any proposed development near existing residential land use demonstrate compliance with the City's Noise Ordinance prior to approval of the project.

N-IMP-1D Require construction activity to comply with the limits established in the City's Noise Ordinance.

N-IMP-1E Require buffers or appropriate mitigation of potential noise sources on noise sensitive areas.

N-IMP-1F Require that vehicle access to commercial properties that are located adjacent to residential parcels or other noise sensitive uses be located at the maximum practical distance from these uses.

N-IMP-1G Encourage truck deliveries to commercial or industrial properties abutting residential or noise sensitive uses after 7:00 a.m. and before 10:00 p.m.

Goal N-2: Maximized efficiency in noise abatement efforts through clear and effective policies and ordinances.

Policy N-2.3 Incorporate noise reduction features for items such as but not limited to parking and loading areas, ingress/egress point, and refuse collection areas, during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses.

N-IMP-2A Require a noise impact evaluation for projects, if determined necessary through the environmental review process. Should noise abatement be necessary, the City shall require the implementation of mitigation measures based on a technical study prepared by a qualified acoustical professional.

Municipal Code. Section 8.47.050 of the City's Municipal Code limits excessive exterior noise levels from stationary noise sources at the property line of various land uses shown in Table G.

Table G: Noise Ordinance Standards

Use Categories	Use Designations	Time of Day	Ambient Base Noise Levels (dBA)	Noise Level (dBA)				
				L_{50}	L_{25}	L_8	L_2	L_{max}
Sensitive	Residential Use	7:00 a.m. to 10:00 p.m.	55	55	60	65	70	75
		10:00 p.m. to 7:00 a.m.	50	50	55	60	65	70
Conditionally Sensitive	Institutional Use	Anytime	65	65	70	75	80	85
	Office-Professional Use	Anytime	65	65	70	75	80	85
	Hotels and Motels	Anytime	65	65	70	75	80	85
Non-Sensitive	Commercial Uses	Anytime	70	70	75	80	85	90
	Commercial/Industrial Uses within 150 feet of Residential	7:00 a.m. to 10:00 p.m.	65	65	70	75	80	85
		10:00 p.m. to 7:00 a.m.	50	50	55	60	65	70
	Industrial Use	Anytime	70	70	75	80	85	90

Source: City of Garden Grove Municipal Code (City of Garden Grove 2024).
Note: When the actual measured ambient noise level exceeds the ambient base noise level, the actual measured ambient noise level shall be utilized. In situations where two adjoining properties exist within two different use designations, the most restrictive ambient base noise level will apply. This section permits any noise level that does not exceed either the ambient base noise level or the actual measured ambient noise level by 5 dBA, as measured at the property line of the noise generation property. In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the 5th noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. The following criteria shall be used whenever the noise level exceeds:

L_{50} = The noise standard for a cumulative period of more than 30 minutes in any hour.
L_{25} = The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour.
L_8 = The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour.
L_2 = The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour.
L_{max} = The noise standard plus 20 dBA for any period of time.
dBA = A-weighted decibel(s)

Section 8.47.060(C) of the City's Municipal Code limits noise generated from machinery, equipment, pump, fan, air conditioning, or similar mechanical equipment from creating noise that would cause the noise level at the property line of any property to exceed either the ambient base noise level or the actual measured ambient noise level by more than 5 dBA.

Section 8.47.060(D) of the City's Municipal Code prohibits construction activities that cause discomfort or annoyance to a person of normal sensitivity within a residential area or within a radius of 500 ft between the hours of 10:00 p.m. and 7:00 a.m.

THRESHOLDS OF SIGNIFICANCE

Based on the *Guidelines for the Implementation of the California Environmental Quality Act* (*State CEQA Guidelines*), Appendix G, , a project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and the goals of the community in which it is located.

The *State CEQA Guidelines* indicate that a project would have a significant impact on noise if it would result in:

- 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;

- Generation of excessive ground-borne vibration or ground-borne noise levels; or
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

EXISTING SETTING

Overview of the Existing Noise Environment

The primary existing noise sources in the project area are transportation facilities. Traffic on SR-22, Knott Street, and other roadways in the project area contributes to the ambient noise levels in the project vicinity. Also, office, commercial, and industrial activities contribute to the noise environment in the project area.

Land Uses in the Project Vicinity

Existing land uses within the project area include the Garden Room Banquet Facility and Wedding Chapel to the north, industrial uses and Calvary Chapel Westgrove across Knott Street to the east, office uses to the southeast, the Garden Grove Freeway (SR-22) and the city of Westminster to the south, and a residential community to the west.

Existing Aircraft Noise

The closest airport to the project site is the Joint Forces Training Base in Los Alamitos, which is 2 miles northwest of the project site. Based on the *Airport Environs Land Use Plan for Joint Forces Training Base Los Alamitos* (ALUC 2017), the project site is well beyond the 60 dBA CNEL noise contour. Also, there are no private airstrips within 2 miles of the project site. Therefore, the project would not expose people working in the project vicinity to aviation-related excessive noise levels, and this topic is not further discussed.

IMPACTS

Short-Term Construction Noise Impacts

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site, and would incrementally raise noise levels on roadways leading to the site. The pieces of construction equipment for construction activities would move on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the project vicinity. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 84 dBA), the effect on longer-term ambient noise levels would be small because the number of daily construction-related vehicle trips is small compared to existing daily traffic volume on Knott Street. The building construction phase and architectural coating phase are the only phases of construction for this project and would overlap, which would have an acoustical equivalent traffic volume of 90 passenger car equivalent based on the California Emissions Estimator Model (CalEEMod) (Version 2022.1) results contained in Attachment B of the *Air Quality and Greenhouse Gas Technical Memorandum for*

the 12821 Knott Street Project (LSA 2025a). Knott Street and Garden Grove Boulevard would be used to access the project site, and the existing average daily traffic (ADT) volumes are 33,000 and 17,000, respectively, based on the 2024 Traffic Flow Map (OCTA 2024). Based on the information above, construction-related traffic would increase noise by up to 0.02 dBA. A noise level increase of less than 1 dBA would not be perceptible to the human ear. Therefore, short-term construction-related noise impacts associated with worker commutes and equipment transport to the project site would be less than significant. No mitigation measures are required.

The second type of short-term noise impact is related noise generated from construction activities. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. The proposed project anticipates only building construction and architectural coating phases of construction. These various sequential phases change the character of the noise generated on a project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table H lists the L_{max} recommended for noise impact assessments for typical construction equipment included in the Federal Highway Administration (FHWA) *Highway Construction Noise Handbook* (2006), based on a distance of 50 ft between the equipment and a noise receptor.

Table I lists the anticipated construction equipment for each construction phase based on the CalEEMod (Version 2022.1) results contained in Attachment B of the *Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project* (LSA 2025a). Table I shows the combined noise level at 50 ft from all of the equipment in each phase and the L_{eq} noise level for each equipment type at 50 ft based on the quantity, reference instantaneous maximum (L_{max}) noise level at 50 ft, and acoustical usage factor. Although the construction of the proposed project is primarily inside the existing warehouse building, the anticipated construction equipment would operate at the exterior of existing warehouse building at the west side of the project site near the truck loading dock. As shown in Table I, construction noise levels would reach up to 85.1 L_{eq} at a distance of 50 ft.

The closest residential property line is approximately 100 ft from where construction equipment would operate near the existing warehouse building and may be subject to short-term construction noise reaching 79.1 dBA L_{eq} generated by construction activities in the project area. Construction noise is temporary and would stop once project construction is completed. Project construction activities shall be limited to between the hours of 7:00 a.m. and 10:00 p.m. as specified in Section 8.47.060(D) of the City's Municipal Code and would ensure construction-related noise would not be generated during the more sensitive nighttime hours. Furthermore, construction-related noise levels would be below the FTA noise level standard of 80 dBA L_{eq} for residential uses. Therefore, noise levels generated from project construction would be less than significant. No mitigation measures are required.

Table H: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)[1]	Maximum Noise Level (L_{max}) at 50 ft[2]
Backhoes	40	80
Compactor (ground)	20	80
Compressor (air)	40	80
Concrete Mixer Truck	40	85
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Manlift (Forklift)	20	85
Front-end Loaders	40	80
Generator	50	82
Graders	40	85
Jackhammers	20	85
Pavement Scarifier	20	85
Paver	50	77
Pickup Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder/Torch	40	73

Source: Table 1, *FHWA Roadway Construction Noise Model User's Guide* (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.
[2] Maximum noise levels were developed based on Specification 721.560 from the Central Artery/Tunnel program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
FHWA = Federal Highway Administration
L_{max} = maximum instantaneous sound level
ft = foot/feet

Table I: Summary of Construction Phase, Equipment, and Noise Levels

Construction Phase	Construction Equipment	Quantity	Reference Noise Level at 50 ft (dBA L_{max})	Acoustical Usage Factor[1] (%)	Noise Level at 50 ft (dBA L_{eq})	Combined Noise Level at 50 ft (dBA L_{eq})
Building Construction	Forklifts	2	85	20	81.0	85.1
	Backhoe	2	80	40	79.0	
	Front-End Loaders	3	80	40	80.8	
Architectural Coating	Air Compressors	1	80	40	76.0	76.0

Source: Compiled by LSA (2025).
[1] The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment operates at full power.
dBA = A-weighted decibel(s)
L_{eq} = equivalent continuous sound level
ft = foot/feet
L_{max} = maximum instantaneous noise level

Short-Term Construction Vibration Impacts

This construction vibration impact analysis discusses the level of human annoyance using vibration levels in RMS (VdB) and assesses the potential for building damage using vibration levels in PPV (in/sec). Vibration levels calculated in RMS velocity are best for characterizing human response to building vibration, whereas vibration levels in PPV are best for characterizing damage potential.

Table J shows the reference vibration levels at a distance of 25 ft for each type of standard construction equipment from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Project construction is expected to require the use of loaded trucks, which would generate ground-borne vibration levels of up to 0.076 PPV (in/sec) when measured at 25 ft. Jackhammers, bulldozers, and other vibration-generating construction equipment would not be used because the proposed project primarily consists of tenant improvements as described above.

Table J: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV (in/sec) at 25 ft
Pile Driver (Impact), Typical	0.644
Pile Driver (Sonic), Typical	0.170
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks[1]	**0.076**
Jackhammer	0.035
Small Bulldozer	0.003

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] The equipment shown in **bold** is expected to be used on site.
ft = foot/feet
in/sec = inches per second
FTA = Federal Transit Administration
PPV = peak particle velocity

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts normally occur within the buildings.

The formula for vibration transmission is provided below:

$$L_v dB\ (D) = L_v dB\ (25\ ft) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

Table K lists the projected vibration levels from loaded trucks on the project site to the nearest buildings in the project vicinity. Areas where loaded trucks would operate on the project site include the truck loading dock area west of the warehouse building and on-site access routes north and south of the warehouse building leading to the loading dock area. As shown in Table K, the closest buildings from where loaded trucks would operate on the project site are residential buildings approximately 80 ft away and would experience a vibration level of up to 71 VdB. This vibration level would not have the potential to result in community annoyance because vibration levels would not exceed the FTA community annoyance threshold of 78 VdB for daytime residences. Other building

structures that surround the project site would experience lower vibration levels because they are farther away.

Table K: Potential Construction Vibration Annoyance

Land Use	Direction	Equipment/ Activity	Reference Vibration Level (VdB) at 25 ft	Distance to Structure (ft)[1]	Vibration Level (VdB)
Commercial	North	Loaded trucks	86	125	65
Industrial	East	Loaded trucks	86	170	61
Office	Southeast	Loaded trucks	86	145	63
Residential	West	Loaded trucks	86	80	71

Source: Compiled by LSA (2025).
Note: The FTA threshold perception is 65 VdB.
[1] Distance from where loaded trucks operate on the project site to the building structure.
ft = foot/feet VdB = vibration velocity decibel(s)
FTA = Federal Transit Administration

Table L lists the projected vibration levels from loaded trucks on the project site at the project construction boundary to the nearest buildings in the project vicinity. As shown in Table L, the closest buildings from the property line are residential buildings approximately 15 ft away and would experience a vibration level of up to 0.164 PPV (in/sec). This vibration level would not have the potential to result in building damage because these residential buildings are conservatively assumed to have been built using nonengineered timber and/or masonry construction, and the anticipated project-related vibration levels would not exceed the FTA vibration damage threshold of 0.20 PPV (in/sec). Other building structures that surround the project site would experience lower vibration levels because they are farther away and are also conservatively assumed to have been built using nonengineered timber and/or masonry construction. Therefore, construction vibration impacts during project construction would be less than significant. No mitigation measures are required.

Table L: Potential Construction Vibration Damage

Land Use	Direction	Equipment/Activity	Reference Vibration Level at 25 ft	Distance to Structure (ft)[1]	Vibration Level
			PPV (in/sec)		PPV (in/sec)
Commercial	North	Loaded trucks	0.076	100	0.010
Industrial	East	Loaded trucks	0.076	130	0.006
Office	Southeast	Loaded trucks	0.076	100	0.010
Residential	West	Loaded trucks	0.076	15	0.164

Source: Compiled by LSA (2025).
Note: The FTA-recommended building damage threshold is 0.20 PPV (in/sec) at the receiving nonengineered timber and masonry building.
[1] Distance from the project construction boundary to the building structure.
ft = foot/feet in/sec = inches per second
FTA = Federal Transit Administration PPV = peak particle velocity

Long-Term Traffic Noise Impacts

The project is estimated to generate a net new ADT volume of 112, which would consist of automobiles from the additional office space based on the *Transportation Memorandum for the 12821 Knott Street Project* (LSA 2025b). The existing ADT volumes of 33,000 and 17,000 along Knott Street and Garden Grove Boulevard in the project area, respectively, were obtained from the 2024 Traffic Flow Map (OCTA 2024). It takes a doubling of traffic to increase traffic noise levels by 3 dBA. Based on the information above, project-related traffic on Knott Street and Garden Grove Boulevard would increase traffic noise levels by up to 0.03 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be less than significant. No mitigation measures are required.

Long-Term Stationary Source Noise Impacts

Operations of the proposed project would include truck delivery and truck loading and unloading activities, parking lot activities; and heating, ventilation, and air conditioning (HVAC) equipment. The following provides a detailed noise analysis, discussion of each stationary noise source, and the potential operational noise increase.

Truck Delivery and Truck Loading and Unloading Activities

Truck delivery and truck unloading activities would occur at the west side of the existing warehouse building during the hours of operation from 8:00 a.m. to 6:00 p.m., which is same as the existing condition. Also, the number of trucks and the intensity of truck unloading activities would remain the same because the existing warehouse capacity would remain the same as the existing warehouse under the proposed project. Given this, noise generated from truck delivery and truck unloading activities would be similar to the existing condition, and a project-related noise increase is not anticipated. Therefore, noise generated from truck delivery and truck unloading activities would be less than significant. No mitigation measures are required.

Parking Activities

The proposed project would not modify the existing parking lot because the existing 198 parking spaces is more than the required parking spaces under the existing and proposed warehouse project. The required number of parking spaces under the existing and proposed project is 173 and 183 parking spaces, respectively. Based on the increase of required parking spaces, the increase in parking activities and associated noise would be minimal because the increase in parking activities would not double. It takes a doubling of sound energy to increase noise levels by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, noise generated from parking activities on the project site would be less than significant. No mitigation measures are required.

Heating, Ventilation, and Air Conditioning Noise

The existing warehouse building has approximately 12 rooftop HVAC units based on an aerial photo survey. The proposed project may include additional rooftop HVAC equipment for the proposed mezzanine office space. The additional HVAC equipment would operate during the hours of

operation from 8:00 a.m. to 6:00 p.m. along with the existing rooftop HVAC equipment. Also, it is assumed that the number of additional rooftop HVAC units, if any, would be minimal. It takes a doubling of sound energy to increase noise levels by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, noise generated from the additional HVAC equipment would be less than significant. No mitigation measures are required.

Long-Term Vibration Impacts

The proposed project would not generate vibration. In addition, vibration levels generated from project-related traffic on the roadways (Knott Street and Garden Grove Boulevard) leading to the project site are unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. Vibration generated from operations of the project would be minimal to negligible. Therefore, vibration impacts from project-related operations would be less than significant. No mitigation measures are required.

REGULATORY COMPLIANCE MEASURES

Compliance with the following measure would ensure that construction noise would be generated only during allowable times:

- The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 10:00 p.m. to avoid the City's prohibited hours of construction specified in Section 8.47.060(D) of the City's Municipal Code (City of Garden Grove 2024).

Attachments: A: References
B: Figures

ATTACHMENT A

REFERENCES

Airport Land Use Commission (ALUC). 2017. *Airport Environs Land Use Plan for Joint Forces Training Base Los Alamitos*. August 17. Website: https://files.ocair.com/media/2021-02/JFTB,Los Alamitos-AELUP2017.pdf (accessed January 2025).

City of Garden Grove. 2008. General Plan Noise Element. May. Website: https://ggcity.org/internet/pdf/planning/chapter07_noiseelement.pdf (accessed January 2025).

_____. 2024. Municipal Code. September 10.

Federal Highway Administration (FHWA). 2006. *Highway Construction Noise Handbook*. Roadway Construction Noise Model, FHWA-HEP-06-015. DOT-VNTSC-FHWA-06-02. NTIS No. PB2006-109012. August.

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. September. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed January 2025).

Harris, Cyril M., Editor. 1991. *Handbook of Acoustical Measurements and Noise Control*. Third Edition.

LSA Associates, Inc. (LSA). 2025a. *Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project*. January 31.

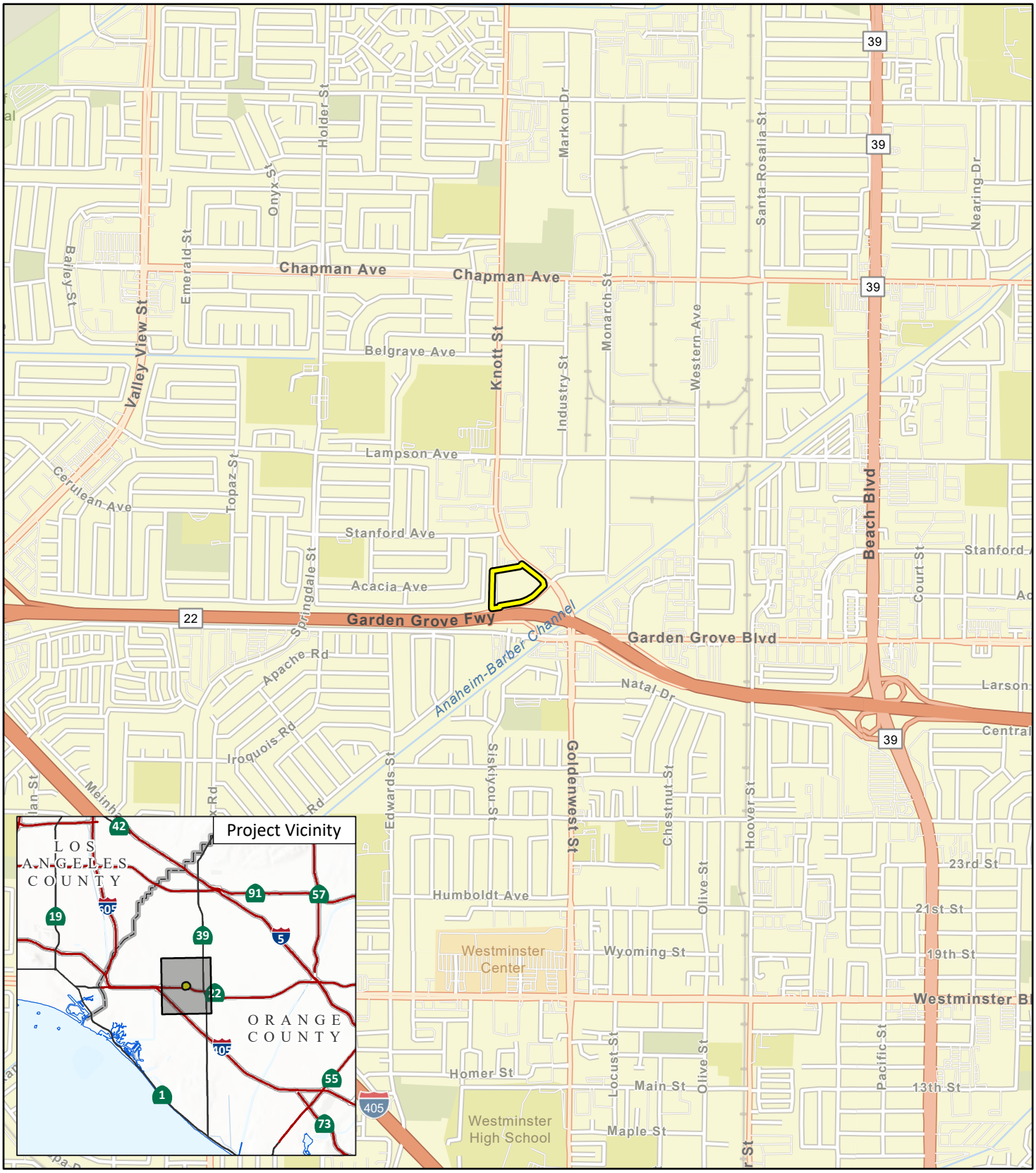
_____. 2025b. *Transportation Memorandum for the 12821 Knott Street Project*. January 20.

Orange County Transportation Authority (OCTA). 2024. *2024 Traffic Flow Map*. September. Website: https://www.octa.net/pdf/TrafficFlow-ADT-2024.pdf (accessed January 2025).

ATTACHMENT B

FIGURES

Figure 1: Project Location
Figure 2: Site Plan



LSA

Project Site

FIGURE 1

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0 1000 2000
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SOURCE: Esri Street Map 2024

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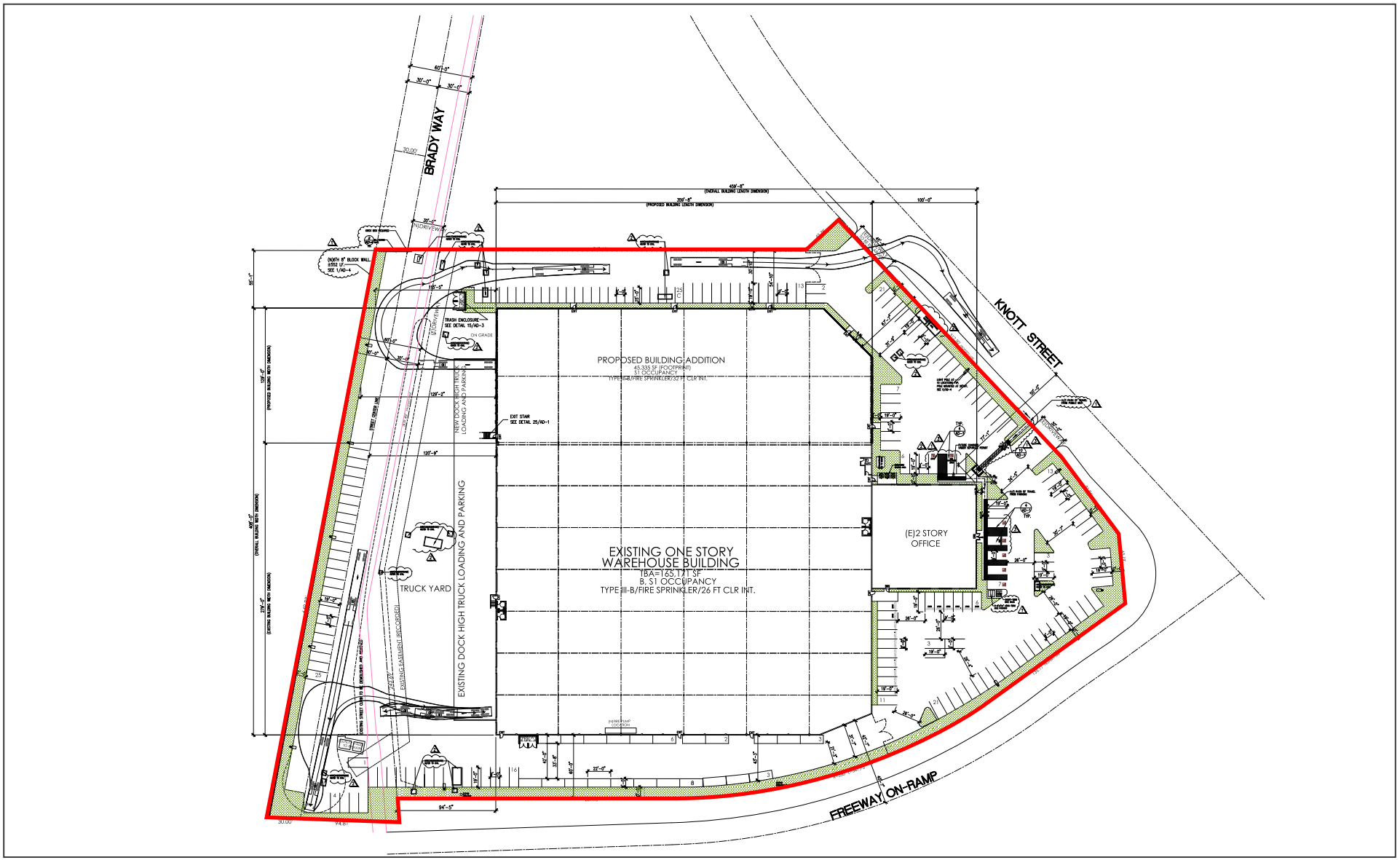
12821 Knott Street Project

Project Location



LSA

LEGEND

Project Site

FIGURE 2

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SOURCE: JGC Architecture

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12821 Knott Street Project

Site Plan

APPENDIX C

TRANSPORTATION MEMORANDUM

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CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 19, 2025

TO: Priit Kaskla, Associate Planner, City of Garden Grove

FROM: Dean Arizabal, Principal, LSA

SUBJECT: Transportation Memorandum for the 12821 Knott Street Project (LSA Project No. 20241951)

This Transportation Memorandum evaluates the potential transportation impacts associated with the implementation of the proposed 12821 Knott Street project (project). This technical information is provided pursuant to the California Environmental Quality Act (CEQA).

PROJECT DESCRIPTION

The 7.97-acre (ac) project site (Assessor's Parcel Number [APN] 215-014-01) is at 12821 Knott Street in Garden Grove (as shown on Figure 1: Project Location; all figures provided in Attachment A). The project site is designated as a Planned Unit Development (PUD-104-70 (REV. 2019)) and is approved for Industrial/Commercial Mixed Use (IC) in the City of Garden Grove (City) General Plan. The project site is currently developed with a 173,080-square-foot (sf) warehouse building. The site is bordered by the Garden Room banquet facility and wedding venue to the north, State Route (SR-22) and the city of Westminster to the south, Knott Street to the east, and Brady Way along with single-family residences to the west. The proposed project site plan is illustrated on Figure 2.

The proposed project would add 10,338 sf of mezzanine (office) space to the existing 173,080 sf warehouse building for a total building area of 183,418 sf. The existing warehouse building has 27,909 sf split between the first and second floors. The proposed project would increase office space on the second floor, bringing the second-floor office space total to 28,247 sf, for a total of 38,247 sf at project completion. No new office space square footage is planned on the first floor. At project completion, the project site would have 183,418 total sf and would exceed the maximum floor area ratio (FAR) of 0.50 allowed under the IC land use designation, requiring a General Plan Amendment.

No exterior construction is proposed as part of the project. In compliance with Section 9.18.140.040 of the City Municipal Code, the project would not expand parking. The site currently provides 198 parking spaces, which is 14 more than the 184 parking spaces required per the City Municipal Code.

Regional access to and from the proposed project is provided via SR-22, directly south of the project site, and Beach Boulevard (SR-39), approximately 0.75 mile east of the project site. Vehicular access to the proposed project will be provided via a full-access driveway on Knott Street, along with a right-in/right-out driveway directly south of the full-access driveway.

TRANSPORTATION ANALYSIS

This section analyzes the proposed project's potential impacts to the transportation system based on the significance thresholds in Appendix G of the *State CEQA Guidelines.*

Regulatory Setting

The following is a summary of State, regional, and local regulations that apply to transportation and circulation within the project study area.

State

Senate Bill 743. On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law and codified a process that revises the approach to determining transportation impacts and mitigation measures under CEQA. SB 743 directed the Governor's Office of Planning and Research (OPR), now known as the Governor's Office of Land Use and Climate Innovation (LCI), , to administer new CEQA guidance for jurisdictions by replacing the focus on automobile vehicle delay and level of service (LOS) or other similar measures of vehicular capacity or traffic congestion in the transportation impact analysis with vehicle miles traveled (VMT). This change shifts the focus of the transportation impact analysis from measuring impacts to drivers, such as the amount of delay and LOS at an intersection, to measuring the impact of driving on the local, regional, and statewide circulation system and the environment. This shift in focus is expected to better align transportation impact analysis with the statewide goals related to reducing greenhouse gas emissions, encouraging infill development, and promoting public health through active transportation. As a result of SB 743, the California Office of Administrative Law cleared the revised *State CEQA Guidelines* for use on December 28, 2018, and the statewide implementation data on July 1, 2020. The OPR *Technical Advisory on Evaluating Transportation Impacts under CEQA* (OPR Technical Advisory) (2018) provides a resource for agencies to use at their discretion.

Region

Southern California Association of Governments. The Southern California Association of Governments (SCAG) is an association of county and city governments to address regional transportation issues. Its members include six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. As the federally designated Metropolitan Planning Organization and the State-designated Regional Transportation Planning Agency, SCAG is responsible for developing long-range regional transportation plans, including sustainable communities strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations, and a portion of the South Coast Air Quality Management District plans.

Local

City of Garden Grove. The project site is in Garden Grove. As such, the Circulation Element of the *City of Garden Grove General Plan* (May 2008) and the *City of Garden Grove Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (City Guidelines), adopted in May 2020, are applicable to the proposed project. These guidelines are intended to ensure that the traffic impacts of a development proposal on the existing and/or planned major street system are

adequately addressed. The City's guidelines include screening criteria, significance thresholds, recommended methodologies, and procedures for VMT analysis for projects within Garden Grove.

Environmental Setting

Existing Circulation System

Key roadways in the project vicinity are as follows:

- **Knott Street** is a three-lane north-south Primary Arterial adjacent to and runs along the east boundary of the project site. Knott Street provides direct access to the project site, with sidewalks on both sides of the street. On-street parking is not permitted on either side of the street. The posted speed limit is 40 miles per hour (mph).

- **The Garden Grove Freeway (SR-22)** is the main regional access route to Garden Grove. It is a eight-lane, east-west State highway that runs between Pacific Coast Highway in Long Beach and the Costa Mesa Freeway (SR-55) in Orange.

Transportation Analysis Methodology

The City Guidelines state that preparation and submission of a Traffic Impact Analysis (TIA) shall be required if a development project is estimated to generate a net increase of 50 or more peak-hour trips and if it does not satisfy the screening criteria for a VMT assessment (e.g., transit priority area, low-VMT-generating area, and project-type screening [project generating fewer than 110 daily vehicle trips]). A TIA considers operational deficiencies or LOS impacts to the circulation system for non-CEQA purposes, as well as VMT impacts for CEQA purposes, potentially generated by a proposed development project. A TIA should identify feasible measures or corrective conditions to offset any deficiencies or impacts (if any). Based on the low peak-hour trip generation of the proposed project, a formal TIA per the City Guidelines is not required.

Impact Analysis

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

Less Than Significant Impact. To assess the impact of the proposed project on the surrounding circulation system, LSA calculated the existing and proposed project potential trip generation.

Trip generation for the existing and proposed uses were developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation* Manual (11th Edition) for Land Use 150 – "Warehousing, Setting/Location: General Urban/Suburban" and Land Use 710 – "General Office Building, Setting/Location: General Urban/Suburban." Truck percentages for the warehousing use were obtained from the South Coast Air Quality Management District (SCAQMD) as recommended for warehousing uses. Based on the *Warehouse Truck Trip Study Data Results and Usage* (SCAQMD, July 2014), 31 percent of the trips are trucks. The 31 percent truck mix was 6.8 percent 2-axle, 5.5 percent 3-axle, and 18.7 percent 4-axle or more. The truck trips were converted to passenger car equivalents (PCEs) as a conservative analysis using the following factors: 1.0 for cars, 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4-axle or more trucks. PCE trips are typically examined for

LOS purposes and trucks' influence on level of delay. Table A, below, summarizes the total existing net PCE trip generation, the total automobile trip generation, and the net truck trip PCE generation for the existing use.

Table A: Project Trip Generation

Land Use	Size	Unit	PCE[3]	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Rates[1,2]										
Warehousing (cars)		tsf		1.180	0.089	0.028	0.117	0.035	0.089	0.124
Warehousing (2-axle trucks)		tsf		0.116	0.009	0.003	0.012	0.003	0.009	0.012
Warehousing (3-axle trucks)		tsf		0.094	0.007	0.002	0.009	0.003	0.007	0.010
Warehousing (4-axle trucks)		tsf		0.320	0.025	0.007	0.032	0.009	0.025	0.034
Warehousing (total)		tsf		1.710	0.130	0.040	0.170	0.050	0.130	0.180
Office		tsf		10.840	1.340	0.180	1.520	0.240	1.200	1.440
Existing Trip Generation (in PCEs)										
Warehousing (cars)		tsf	1.0	171	13	4	17	5	13	18
Warehousing (2-axle trucks)		tsf	1.5	25	2	1	3	1	2	3
Warehousing (3-axle trucks)		tsf	2.0	27	2	1	3	1	2	3
Warehousing (trucks)		tsf	3.0	139	11	3	14	4	11	15
Warehousing (Truck Sum)		tsf	-	191	15	5	20	6	15	21
Warehousing Total (Cars+Trucks)	145.171	tsf	-	362	28	9	37	11	28	39
Office	27.909	tsf	1.0	303	37	5	42	7	33	40
Total	**173.080**	**tsf**	**-**	**665**	**65**	**14**	**79**	**18**	**61**	**79**
Project Trip Generation (in PCEs)										
Warehousing (cars)		tsf	1.0	171	13	4	17	5	13	18
Warehousing (2-axle trucks)		tsf	1.5	25	2	1	3	1	2	3
Warehousing (3-axle trucks)		tsf	2.0	27	2	1	3	1	2	3
Warehousing (4-axle trucks)		tsf	3.0	139	11	3	14	4	11	15
Warehousing (Truck Sum)		tsf	-	191	15	5	20	6	15	21
Warehousing Total (Cars+Trucks)	145.171	tsf	-	362	28	9	37	11	28	39
Office[4]	38.247	tsf	1.0	415	51	7	58	9	45	54
Total	**183.418**	**tsf**	**-**	**777**	**79**	**16**	**95**	**20**	**73**	**93**
Net Trip Generation (Project - Existing)				**112**	**14**	**2**	**16**	**2**	**12**	**14**

1 Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition (2021).
Land Use Code 150 - Warehousing, Setting/Location: General Urban/Suburban
Land Use Code 710 - General Office Building, Setting/Location: General Urban/Suburban

2 Trips were converted to passenger vehicles and trucks based on the South Coast Air Quality Management District (SCAQMD) requirements for warehouse projects. Based on the *Warehouse Truck Trip Study Data Results and Usage* (SCAQMD, July 2014), 31% of the trips are trucks. The 31% truck mix was 6.8% 2-axle, 5.5% 3-axle, and 18.7% 4-axle or more.

3 Trips were converted to PCEs using the following factors: 1.0 for cars, 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4-axle or more trucks.

4 The addition of 10,338 sf office use (mezzanine space), increasing the total office area to 38,247 sf.

PCE = passenger car equivalent

tsf = thousand square feet (or thousand-square-foot)

As shown on Table A, the existing warehouse use is estimated to generate 37 PCE trips in the a.m. peak hour, 39 PCE trips in the p.m. peak hour, and 362 daily PCE trips. This includes 17 automobile trips in the a.m. peak hour, 18 automobile trips in the p.m. peak hour, and 171 daily automobile trips. Truck PCE trips are estimated to represent 20 trips in the a.m. peak hour, 21 trips in the p.m. peak hour, and 191 daily trips.

The existing office use is estimated to generate 42 automobile trips in the a.m. peak hour, 40 automobile trips in the p.m. peak hour, and 303 daily automobile trips. The summed total of the existing uses is estimated to generate 79 PCE trips in the a.m. peak hour, 79 PCE trips in the p.m. peak hour, and 665 daily PCE trips. This includes 59 automobile trips in the a.m. peak hour, 58 automobile trips in the p.m. peak hour, and 474 daily automobile trips. Truck PCE trips are estimated to represent 20 trips in the a.m. peak hour, 21 trips in the p.m. peak hour, and 191 daily trips.

The proposed project would add 10,338 sf of mezzanine (office) space to the existing warehouse building, increasing the total office area to 38,247 sf and the total building area would be 183,418 sf.

Table A also presents the project's potential trip generation. The increased office use component would generate 58 trips during the a.m. peak hour, 54 trips during the p.m. peak hour and 415 daily trips. With the warehousing use unchanged (362 daily PCE trips, 37 a.m. peak-hour trips, and 39 p.m. peak-hour trips of which Truck PCE trips represent 20 trips in the a.m. peak hour, 21 trips in the p.m. peak hour, and 191 daily trips), the entire site (183,418 sf) is estimated to generate 95 PCE trips in the a.m. peak hour, 93 PCE trips in the p.m. peak hour and 777 daily PCE trips. As shown in Table A, after accounting for the existing use (Project-Existing) the proposed project (the addition of 10,338 sf of office use) is expected to generate 112 daily auto trips, including 16 auto trips (14 inbound and 2 outbound) during the a.m. peak hour and 14 auto trips (2 inbound and 12 outbound) during the p.m. peak hour.

The City's General Plan Circulation Element provides policy direction for the transportation system and links circulation strategies with those of population growth, environmental quality, and economic well-being. The Circulation Element establishes key goals, policies, programs, and requirements for achieving a transportation system that balances the needs of all road users. The proposed project would not remove any sidewalks, bus shelters, obstruct any bicycle lanes or make any modifications to any transportation facilities (e.g., vehicular, transit, bicycle, or pedestrian).Therefore, the proposed project would not conflict with the Circulation Element. No mitigation is required.

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

Less Than Significant Impact. *State CEQA Guidelines* Section 15064.3, Subdivision (b), states that for land use projects, transportation impacts are to be measured by evaluating the project's VMT, as outlined in the following:

> *Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*

VMT is the amount and distance of automobile travel attributable to a project. According to the 2018 OPR Technical Advisory, "automobile" refers to "on-road passenger vehicles, specifically cars and light trucks."

Project VMT Screening Determination

The City Guidelines outline three screening criteria for land use projects:

- **Transit Priority Area (TPA) Screening:** Projects within a TPA that meet criteria such as minimum FARs may be presumed to have a less than significant VMT impact. The proposed project is not within a TPA; therefore, this criterion does not apply.

- **Low-VMT-Area Screening:** Projects in low-VMT-generating areas may be presumed to have a less than significant VMT impact. The proposed project is not in such an area; therefore, this criterion does not apply.

- **Project Type Screening:** Certain land use types (e.g., local-serving retail uses, schools, and gas stations), projects generating fewer than 110 daily vehicle trips and warehousing uses up to 63,000 square feet are presumed to have a less than significant VMT impact. The existing use generates 665 daily trips; with the addition of the proposed project, the site would generate 777 daily trips resulting in a net increase of 112 daily trips, slightly exceeding the daily trip threshold. Therefore, this criterion does not apply.

Based on the VMT screening criteria of the City Guidelines, the proposed project is not screened out of a detailed VMT analysis. Therefore, a VMT analysis has been prepared for the proposed project. The VMT analysis methodology and results are presented in the following sections.

VMT Analysis

Detailed VMT Analysis Methodology. As recommended in the City Guidelines, the most recent version of the Orange County Transportation Analysis Model (OCTAM), OCTAM 5.1, was used to conduct the detailed project VMT analysis. Additionally, the City Guidelines recommend use of two types of VMT for land use project evaluation: project-generated VMT and the project's effect on VMT.

The City Guidelines established VMT per service population (population plus employment) as the metric to evaluate project-generated VMT. The threshold was established as 85 percent of the County of Orange's (County) baseline average VMT per service population. Therefore, the proposed project would result in a significant VMT impact if the project-generated VMT per service population is greater than the average County VMT per service population under baseline conditions. The average County VMT per service population was obtained from LSA's "no project" OCTAM run under baseline conditions.

The project's potential effect on VMT is determined by comparing the citywide VMT per service population for baseline and cumulative "with project" scenarios with the corresponding "no project" scenarios. The proposed project would result in a significant impact if the citywide roadway VMT per

service population increases in the "with project" conditions compared to "no project" conditions. The following is a detailed description of the VMT analysis:

Project Traffic Analysis Zone Update. The first step in preparation of this analysis was to update the traffic analysis zone (TAZ) in the OCTAM that includes the project area. Typically, project VMT is estimated by isolating the project in a new TAZ or multiple TAZs depending on the diversity of project land uses and project size. Since the OCTAM does not allow addition of new TAZs, one TAZ was borrowed for this project. Land use from the borrowed TAZ was moved to an adjacent TAZ and the project land use was added to the borrowed TAZ. Moving land use from the borrowed TAZ to an adjacent TAZ does not affect model's performance while it helps with isolating the project in the model and to determine project VMT and its impact. The project TAZ was used to calculate project-specific VMT per service population.

OCTAM is a socioeconomic model and therefore project land uses should be converted into model employment types. Project land use was converted to socioeconomic data using appropriate regional factors. The land use to employee conversion factors were developed using Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th edition. The ITE trip generation manual includes trip generation rates for different land use categories by different units such as square footage, number of units, and/or number of employees. Employee/square footage rate was determined for project use by dividing the daily trip rate per 1,000 sf by daily trip rate per employee. This ratio was used to estimate number of employees per square feet for the project use, which, in turn, was used to estimate total project employees.

A similar approach was used for the cumulative year. It should be noted that, for these purposes, the project land use was included in OCTAM as an additional land use and no shifting of land use/socioeconomic data from the parent TAZ was applied. Therefore, the cumulative VMT analysis can be considered as a conservative estimate.

Model Runs and Project VMT Estimation. Model runs were conducted for the updated "with project" OCTAM scenarios after incorporating the project land use as described above. Project-generated VMT was estimated from the OCTAM outputs using origin-destination trip matrices and multiplying them with the final assignment skim matrices. The Origin/Destination (OD) method for calculating VMT sums all weekday VMT generated by trips with at least one trip-end in the study area and tracks those trips to their origins or destinations. Origins are all vehicle trips that start in a specific TAZ, whereas destinations are all vehicle trips that end in a specific TAZ. The OD method accounts for all trip purposes and therefore provides a more complete estimate of VMT. Origin-destination matrix outputs were used as trips and the trip lengths were derived from the skimming step to estimate OD VMT as recommended in the guidelines. OD matrix outputs include all vehicle trips (all trip purposes) and, hence, no conversion for automobile occupancy was applied. The trip length or distance was obtained using the model outputs from the "skimming" step. The extracted project VMT was divided by the estimated project service population (project employment) to develop the project-generated VMT per service population for both the base and cumulative scenarios.

Similarly, the OCTAM output roadway volumes were used to estimate citywide roadway VMT per service population for the "no project" and "with project" conditions for both the base and cumulative scenarios.

Project's Potential VMT Impact. Table B summarizes the City's significance threshold and project VMT per service population for the base year. As shown in Table B, the project's potential VMT per service population is 24.2 percent lower than the City's threshold. Therefore, based on the City Guidelines, the proposed project would not have a significant VMT impact for the base year.

Detailed VMT calculations for the project are provided in Attachment B.

Table B: Threshold and Base Year Project VMT per Service Population

City of Garden Grove Threshold (2019 Baseline Orange County)[1]	Knott Street Expansion (project)	Difference	% Difference	Significant Impact
21.6	16.3	(5.2)	-24.2%	**No**

[1] Estimated using "no project" OCTAM base year (2019) model runs
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

Table C summarizes the significant threshold and the project VMT per service population for the cumulative year. As shown in Table C, the project's cumulative year VMT per service population is 28.4 percent lower than the City's threshold. Therefore, as stated in the guidelines, the project will not have a significant VMT impact for the cumulative year.

Detailed VMT calculations for the proposed project are provided in Attachment B.

Table C: Threshold and Cumulative Year Project VMT per Service Population

City of Garden Grove Threshold (2019 Baseline Orange County)	Knott Street Expansion (project)	Difference	% Difference	Significant Impact
21.6	15.4	(6.1)	-28.4%	**No**

Source: Compiled by LSA using OCTAM (2025).
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

Project's Potential Effect on VMT. Table D summarizes the base year "no project" and "with project" citywide roadway VMT per service population. As shown in Table D, the "with project" citywide roadway VMT per service population remains unchanged compared to the "no project" metric. As such, the project's effect on VMT for the base year is less than significant.

Detailed VMT calculations for the proposed project are provided in Attachment B.

Table D: Base Year (2019) Townwide Roadway VMT per Service Population

2019	No Project	With Project	Difference	Percentage Difference
City of Garden Grove[1]	11.0	11.0	0.0	0.0%

Source: Compiled by LSA using OCTAM (2025).
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

Table E summarizes the corresponding values for cumulative year. As shown in Table E, the "with project" citywide roadway VMT per service population remains unchanged compared to the "no project" metric. As such, the project's effect on VMT for the cumulative year is less than significant.

Table E: Cumulative Year (2050) Townwide Roadway VMT per Service Population

2050	No Project	With Project	Difference	Percentage Difference
City of Garden Grove[1]	11.2	11.2	0.0	0.0%

[1] Estimates from OCTAM (2025)
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

As such, the proposed project would not conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3(b). Potential impacts are determined to be less than significant, and no mitigation is required.

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

Less Than Significant Impact. Knott Street would provide direct access to the project site. Improvements are not required to accommodate traffic along this roadway. Adequate visibility (without any sight obstructions) is currently provided along Knott Street for all vehicles to safely access the project site. The proposed project would not create any new sight obstructions, would not modify any existing intersections or create any new intersections and would not call for any incompatible uses such as farm equipment. The proposed project would not substantially increase hazards for vehicles due to a geometric design feature or incompatible uses. Therefore, no mitigation is required.

d. Would the project result in inadequate emergency access?

Less Than Significant Impact. The proposed project would utilize the existing regional and local roadway network serving the project area and would not introduce any new roadways or land uses that conflict with existing development. The existing emergency access conditions comply with Orange County Fire Authority (OCFA) access requirements as well as Chapter 5 of the California Fire

Code (CFC) and the proposed project would not alter or otherwise affect these existing conditions. Because no modifications would be necessary and no improvements to Knott Street are required, no roadway or lane closures are anticipated, and project-related vehicles would not impede traffic flow on the surrounding circulation system. Design features such as internal access, ingress, and egress would be subject to review by the City's Department of Public Works to ensure adequate fire engine access and turning radii. All emergency access routes to the project site and adjacent areas would be kept clear and unobstructed at all times. The proposed project would not require improvements to Knott Street, as described above. No roadway closures or lane closures are anticipated, and project vehicles would not impede traffic flow on the surrounding circulation system. Therefore, the proposed project would not result in inadequate emergency access, and no mitigation is required.

Attachments: A: Figures 1 and 2
B: VMT Calculations

ATTACHMENT A

FIGURES 1 AND 2

LSA

Project Location

FIGURE 1

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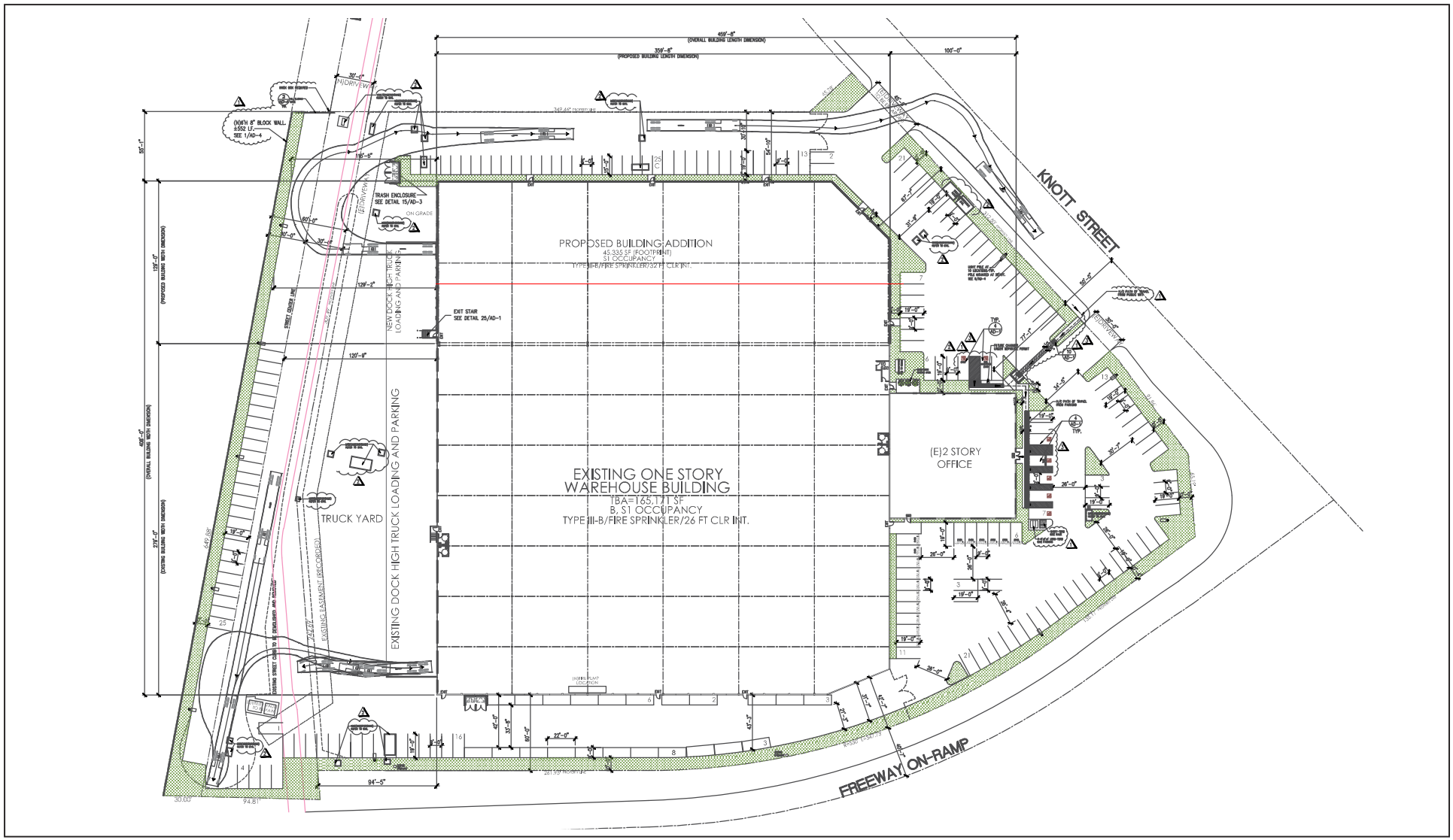
SOURCE: ESRI Streetmap 2021; Google Earth, 2023

12821 Knott Street Garden Grove

Regional and Project Location

P:\20241951 Garden Grove 12821 Knott ISMND\Technical Studies\Traffic\g\12821 Knott Street, Garden Grove.aprx (10/4/2024)



LSA

FIGURE 2

N

0 60 120

FEET

12821 Knott St, Garden Grove
Transportation Memorandum

Conceptual Site Plan

SOURCE: Cataldo Architects, September 2024

P:\20241951 Garden Grove 12821 Knott ISMND\Technical Studies\Traffic\g\Fig2_Conceptual_Site_Plan

ATTACHMENT B

VMT CALCULATIONS

LSA

Appendix A1
VMT Calculation Worksheet - Knott St Expansion
Project Generated VMT

2019	Knott St Expansion (project)	2019 Baseline Orange County (Threshold) *
Population (a)	0	3,196,231
Employment (b)	34	1,805,476
Enrollment('c)	0	783,227
Total Service Population (d=a+b+c)	34	5,784,934
Total OD VMT ('e)	555	146,706,295
OD VMT per service population (f = e/d)	16.3	25.4

2050	Knott St Expansion (project)	2019 Baseline Orange County (Threshold) *
Population (a)	0	3,196,231
Employment (b)	34	1,805,476
Enrollment('c)	0	783,227
Total Service Population (d=a+b+c)	34	5,784,934
Total OD VMT ('e)	525	146,706,295
OD VMT per service population (f = e/d)	15.4	25.4

** Threshold value obtained from OCTAM "No Project" model runs*

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Appendix A2

VMT Calculation Worksheet - Knott St Expansion

Project's Effect on VMT - Roadway VMT Within City of Garden Grove

2019	With Project	Without Project
Roadway VMT	2,913,748	2,914,184
Service Population	266,006	265,972
VMT per service population	11.0	11.0

2050	With Project	Without Project
Roadway VMT	3,110,997	3,111,392
Service Population	277,529	277,495
VMT per service population	11.2	11.2