June
2020

CITY OF LONG BEACH

LONG BEACH DEVELOPMENT SERVICES

Spring Street Business Park Project

Final Environmental Impact Report

Prepared for the City of Long Beach

HDR

This page is intentionally blank.

Table of Contents

Executive Summary ES-1
Introduction ES-1
Project Location ES-1
Project Description ES-1
Project Objectives ES-2
Required Project Approvals ES-2
Summary of Impacts and Mitigation Measures ES-2
Significant and Unavoidable Environmental Impacts ES-3
Areas of Known Controversy and Issues to be Resolved ES-18
Project Alternatives ES-18
Environmentally Superior Alternative ES-18

1 Introduction 1-1
1.1 Overview of the Proposed Project 1-1
1.2 Purpose of an EIR 1-1
1.2.1 Agency Roles and Intended Uses of This EIR 1-1
1.3 Document Organization 1-2
1.4 Notice of Preparation and Scoping Meeting 1-3
1.5 Environmental Topics Addressed 1-3
1.6 EIR Processing 1-4
1.7 Comments Requested 1-4

2 Project Description 2-1
2.1 Project Location 2-1
2.2 Environmental Setting 2-3
2.2.1 Project Background 2-3
2.2.2 Project Site 2-3
2.2.3 Surrounding Land Uses 2-3
2.3 Project Objectives 2-4
2.4 Project Characteristics 2-4
2.4.1 Project Design 2-4
2.4.2 Project Construction and Schedule 2-10
2.5 Required Project Approvals 2-10

3 Environmental Analysis 3-1
3.1 Air Quality 3.1-1
3.1.1 Overview 3.1-1
3.1.2 Environmental Setting 3.1-1
3.1.3 Regulatory Framework 3.1-5
3.1.4 Analysis of Impacts 3.1-13
3.2 Geology and Soils 3.2-1
3.2.1 Overview 3.2-1
3.2.2 Environmental Setting 3.2-1
3.2.3 Regulatory Framework 3.2-2
3.2.4 Analysis of Impacts 3.2-5

3.3 Greenhouse Gas Emissions 3.3-1
3.3.1 Overview 3.3-1
3.3.2 Environmental Setting 3.3-1
3.3.3 Regulatory Framework 3.3-2
3.3.4 Analysis of Impacts 3.3-6
3.4 Noise 3.4-1
3.4.1 Overview 3.4-1
3.4.2 Environmental Setting 3.4-1
3.4.3 Regulatory Framework 3.4-5
3.4.4 Analysis of Impacts 3.4-8
3.5 Transportation 3.5-1
3.5.1 Overview 3.5-1
3.5.2 Environmental Setting 3.5-1
3.5.3 Regulatory Framework 3.5-6
3.5.4 Analysis of Impacts 3.5-7
4 Other CEQA Considerations 4-1
4.1 Growth-Inducing Impacts 4-1
4.2 Significant Irreversible Environmental Changes 4-1
4.3 Significant and Unavoidable Environmental Impacts 4-1
4.4 Effects Mitigated in the Initial Study 4-2
4.4.1 Biological Resources 4-2
4.4.2 Cultural Resources 4-3
4.4.3 Hydrology and Water Quality 4-3
4.4.4 Tribal Cultural Resources 4-3
4.5 Effects Found Not to be Significant 4-4
4.5.1 Aesthetics 4-4
4.5.2 Agriculture and Forestry Resources 4-4
4.5.3 Air Quality 4-5
4.5.4 Biological Resources 4-5
4.5.5 Energy 4-5
4.5.6 Geology and Soils 4-6
4.5.7 Greenhouse Gas Emissions 4-7
4.5.8 Hazards and Hazardous Materials 4-7
4.5.9 Hydrology and Water Quality 4-7
4.5.10 Land Use and Planning 4-8
4.5.11 Mineral Resources 4-9
4.5.12 Noise 4-9
4.5.13 Population and Housing 4-9
4.5.14 Public Services 4-9
4.5.15 Recreation 4-10
4.5.16 Transportation 4-10
4.5.17 Utilities and Service Systems 4-11
4.5.18 Wildfire 4-12
5 Alternatives 5-1
5.1 Introduction 5-1
5.2 Criteria for Alternatives Analysis 5-1
5.3 Alternatives Considered but Rejected 5-2
5.3.1 Alternative Site 5-2
5.4 Evaluation of Alternatives 5-2
5.4.1 Alternative 1: No Project/No Development Alternative 5-2
5.4.2 Alternative 2: Reduced Project 5-4

5.4.3 Alternative 3: Mixed-Use Development 5-8
5.5 Environmentally-Superior Alternative 5-11
6 References 6-1
7 EIR Preparers and Persons and Organizations Contacted 7-1
7.1 Lead Agency 7-1
7.2 EIR Preparers 7-1
7.2.1 HDR 7-1
7.3 Persons and Organizations Contacted 7-1
8 Response to Comments 8-1
8.1 Introduction 8-1
8.2 Comments on the Draft EIR 8-1
8.3 Responses to Comments on the Draft EIR 8-1
8.4 Additional Changes 8-43

Figures

Figure 2-1. Regional Vicinity and Project Location 2-2
Figure 2-2. Project Site Plan 2-6
Figure 2-3. Visual Simulations of the Project Site 2-7
Figure 2-4. Visual Simulation of Building 1 2-7
Figure 2-5. Visual Simulation of Building 2 2-8
Figure 2-6. Visual Simulation of Building 3 2-8
Figure 2-7. Visual Simulation of the North Elevation of Building 2 2-10
Figure 3-1. Cumulative Projects in the Vicinity of the Project Site 3-5
Figure 3.4-1. City of Long Beach Noise District Map 3.4-3

Tables

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures ES-5
Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study ES-12
Table ES-3. Comparison of Alternative Impacts on Proposed Project ES-19
Table 3-1. Cumulative Projects 3-6
Table 3.1-1. Ambient Air Quality Monitoring Concentrations 3.1-2
Table 3.1-2. Applicable Laws, Regulations, and Plans for Air Quality 3.1-5
Table 3.1-3. Federal and State Criteria Air Pollutant Standards, Effects, and Sources 3.1-8
Table 3.1-4. South Coast Air Quality Management District Air Quality Thresholds of Significance 3.1-14
Table 3.1-5. South Coast Air Quality Management District Localized Significance Thresholds 3.1-15
Table 3.1-6. Construction Emissions 3.1-16
Table 3.1-7. Summary of On-Site Construction Emissions, Localized Significance 3.1-16
Table 3.1-8. Daily Operational Emissions 3.1-17
Table 3.1-9. Summary of On-Site Operation Emissions, Localized Significance 3.1-18
Table 3.2-1. Applicable Laws, Regulations, and Plans for Geology and Soils 3.2-3
Table 3.3-1. Global Warming Potential of Greenhouse Gases 3.3-2

Table 3.3-2. Applicable Laws, Regulations, and Plans for Greenhouse Gas Emissions 3.3-2
Table 3.3-3. Construction Greenhouse Gas Emissions.....3.3-7
Table 3.3-4. Annual Greenhouse Gas Emissions.....3.3-8
Table 3.4-1. Existing Traffic Volumes 3.4-4
Table 3.4-2. California Department of Health Services Noise Guidelines 3.4-5
Table 3.4-3. Recommended Criteria for Maximum Acceptable Noise Levels (A-weighted Decibels).....3.4-6
Table 3.4-4. Exterior Noise Limits.....3.4-7
Table 3.4-5. Interior Noise Limits 3.4-7
Table 3.4-6. Ground-borne Vibration and Noise Impact Criteria - Human Annoyance 3.4-9
Table 3.4-7. Ground-borne Vibration and Noise Impact Criteria - Structural Damage.....3.4-9
Table 3.4-8. Project Construction Noise Levels by Phase.....3.4-11
Table 3.4-9. Existing With Project Traffic Noise Levels 3.4-13
Table 3.4-10. 2038 Without Project Traffic Volumes 3.4-14
Table 3.4-11. 2038 With Project Traffic Volumes 3.4-14
Table 3.4-12. Vibration Source Amplitudes for Construction Equipment 3.4-15
Table 3.5-1. Intersection Level of Service Definitions – Intersection Capacity Utilization and Methodologies 3.5-3
Table 3.5-2. Study Intersections 3.5-5
Table 3.5-3. Applicable Laws, Regulations, and Plans for Transportation 3.5-6
Table 3.5-4. Project Trip Generation Forecast.....3.5-8
Table 3.5-5. Existing Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary 3.5-14
Table 3.5-6. Year 2021 Cumulative Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet 3.5-16
Table 3.5-7.Year 2038 Buildout Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet 3.5-18
Table 3.5-8. Year 2021 Cumulative Peak Hour Intersection Capacity and Caltrans Analysis Summary with Road Diet.....3.5-21
Table 3.5-9. Year 2038 Buildout Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary with Road Diet 3.5-22
Table 5.4-1. Attainment of Project Objectives – No Project/No Development Alternative.....5-4
Table 5.4-2. Attainment of Project Objectives – Alternative 2: Reduced Project.....5-7
Table 5.4-3. Attainment of Project Objectives – Alternative 3: Mixed-Use Development.....5-11
Table 5.5-1. Comparison of Alternative Impacts on Proposed Project.....5-13
Table 8-1. List of Agencies and Organizations that Commented on the Draft EIR 8-1

Appendices

Appendix A: Notice of Preparation, Initial Study, and Comment Letters

Appendix B: Air Quality/Greenhouse Gas Technical Memorandum

Appendix C: Preliminary Geotechnical Investigation

Appendix D: Noise and Vibration Technical Memorandum

Appendix E: Traffic Impact Analysis

Appendix F: Alternatives Calculations – Trip Generation

Appendix G: Response to Comment Exhibit – California Air Resource Board

Appendix H: Response to Comment Exhibit – City of Signal Hill

Appendix I: Mitigation Monitoring and Reporting Program

Acronyms

°F	Fahrenheit
9G	general industry
AB	assembly bill
AQMP	Air Quality Management Plan
BMP	best management practice
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	methane
CMP	Congestion Management Program
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
dB	decibel
dBA	A-weighted decibel
DU	dwelling unit
EFZ	Earthquake Fault Zone
EIR	environmental impact report
EO	executive order
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	global warming potential
HCM	Highway Capacity Manual
I-405	Interstate 405
ICU	Intersection Capacity Utilization
IM	medium industrial
IS	Initial Study
ITE	Institute of Transportation Engineers
L_{dn}	average hourly noise level
L_{eq}	equivalent continuous sound level
L_{max}	maximum A-weighted sound level
LBFD	Long Beach Fire Department
LBMC	Long Beach Municipal Code
LBT	Long Beach Transit
LID	Low Impact Development
LOS	level of service
LST	localized significance threshold
MLD	most likely descendant
MS4	Municipal Separate Storm Sewer System
MT	metric tons
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
N_2O	nitrous oxide

NI	neo-industrial
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
Pb	lead
PCE	passenger car equivalency
$PM_{2.5}$	particles of 2.5 micrometers and smaller
PM_{10}	particles of 10 micrometers and smaller
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
RMS	root mean square
ROG	reactive organic gases
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SF	square feet
SIP	State Implementation Plan
SLCP	short-lived climate pollutant
SO_2	Sulfur Dioxide
SO_X	sulfur oxides
TIA	Traffic Impact Analysis
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
V/C	volume/capacity ratio
VdB	velocity in decibels
VMT	vehicle miles traveled
VOC	volatile organic compounds

This page is intentionally blank.

Executive Summary

Introduction

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code (PRC) Section 21000 et seq. and the CEQA Guidelines Sections 15000 et seq., as promulgated by the California Resources Agency and the Governor's Office of Planning and Research. The purpose of this environmental document is to assess the potential environmental effects associated with the Spring Street Business Park Project (project).

Project Location

The project site is approximately 7.8 acres of land and consists of a single parcel (Assessor's Parcel Number 7212-009-021) located within the City of Long Beach along the city boundary, with the adjacent City of Signal Hill to the east. The project site is vacant and immediately bounded by Spring Street on the north, Willow Springs Park on the south, Orange Avenue on the east, and undeveloped property on the west. The project site can be accessed via Spring Street and Orange Avenue.

Project Description

The project is a proposed business park/warehouse complex with off-site street improvements along Spring Street and Orange Avenue, and park enhancements consistent with the Willow Springs Park Master Plan. Project improvements are consistent with the land use and development standards of the Medium Industrial (IM) zoning district. The project includes the following primary components:

- **Business Park/Warehouse Complex** – The project includes development of three new concrete "tilt-up" buildings for new industrial with accessory office uses for a total of 160,673 square feet (SF) of floor area. The three buildings vary in size and each includes mezzanine space. Approximately 25 percent of the square footage of each building will be used for accessory office space. A total of 162 auto parking spaces will be provided, including 6 Americans with Disabilities Act accessible, 3 van accessible, 12 clean air vehicle, and 8 electric vehicle charging stations. Additionally, eight trailer parking spaces will be provided.
- **Off-site Street Improvements** – The project includes off-site improvements to adjacent city streets. Orange Avenue would be widened adjacent and east of the project site. Improvements along Spring Street would include reconstruction of cracked, deteriorated, or uplifted/depressed sections of sidewalk pavement, as well as the curb and curb gutter. New crosswalks at project site entrances and new bicycle facilities along Orange Avenue and Spring Street would also be constructed.
- **Off-site Park Improvements** – The project includes grading, planting, and irrigating of the property west and south of, and immediately adjacent to, the project site to create a park buffer zone, consistent with future plans for the city's Willow Springs Park.

Project Objectives

The following objectives have been identified for the proposed project:

- Provide an industrial and office development project consistent with the site's land use regulations that maximizes the development potential of the site
- Provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities
- Provide a modern, urban development site in place of the existing vacant site, which was previously a natural gas processing and compression plant
- Provide an economically-viable development program for the property
- Increase the City of Long Beach's professional industrial and office inventory, which would accommodate additional employment within the city
- Maintain consistency with the City of Long Beach General Plan and zoning ordinances
- Provide needed infrastructure improvements, including roadway, sidewalk, and park improvements, which would correct existing public infrastructure deficiencies

Required Project Approvals

In conformance with Section 15050 and 15367 of the CEQA Guidelines, the City of Long Beach has been designated as the "lead agency," which is defined as "the public agency which has the principal responsibility for carrying out or approving a project." Approvals by the lead agency required for development of the project include, but may not be limited to the following:

- Site Plan Review
- Final EIR certification
- Ministerial permits and approvals, including grading permits, building permits, haul route permits, and temporary street closures

Additional approvals by other agencies would be required for off-site street improvements. These include but are not limited to:

- **California Department of Transportation (Caltrans)** – Encroachment permits would be required for improvements at Caltrans jurisdictional intersections
- **City of Signal Hill** – Permits and approvals for street or intersection improvements at Signal Hill jurisdictional intersections

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes environmental impacts, mitigation measures, and level of significance after mitigation associated with the project. Table ES-2 summarizes the impacts and mitigation measures that were identified in the Initial Study (IS) prepared for the project (Appendix A). Detailed analyses of the following topics are included within Chapter 3 of this ~~Draft~~ Final EIR: air quality, geology and soils, greenhouse gas (GHG) emissions, noise, and transportation.

Significant and Unavoidable Environmental Impacts

Section 15216.2(c) of the CEQA Guidelines requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the project is implemented. Sections 3.1 through 3.5 of this EIR provide a detailed analysis of all significant environmental impacts related to the project; identify feasible mitigation measures, where available, that could avoid or reduce these significant impacts; and present a determination whether these mitigation measures would reduce these impacts to a level less than significant. Sections 3.1 through 3.5 of this EIR also identify the significant cumulative impacts resulting from the combined impacts of the project and related projects considered in cumulative analysis. If a specific impact in these sections cannot be fully reduced to a less than significant level, it is considered a significant and unavoidable impact.

Implementation of the proposed project would result in significant and unavoidable impacts for transportation at the following intersections:

- The intersection of Spring Street and Orange Avenue would deteriorate from level of service (LOS) D to LOS E or F with mitigation during AM and PM peak hours under 2021 Cumulative plus project with road diet and AM and PM peak hours under 2038 Buildout plus project with road diet. The deterioration from an acceptable LOS (A through D) to an unacceptable LOS (E or F) is considered a significant impact under the City of Long Beach and City of Signal Hill criteria.
- The intersection of Orange Avenue and 32nd Street would result in a significant and unavoidable impact because the City of Signal Hill has jurisdiction over the intersection of Orange Avenue and 32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach and as such, Mitigation Measure TRAN-1 is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~and~~ the impact at Orange Avenue and 32nd Street during PM peak hours remains~~is considered~~ significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.
- The intersection of Orange Avenue and Interstate 405 (I-405) Southbound Ramps would result in a significant and unavoidable impact because Caltrans has jurisdiction over the Orange Avenue and I-405 Southbound Ramps intersection. Caltrans does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and I-405 Southbound Ramps. Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, and Mitigation Measures TRAN-4 and TRAN-5 are potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant

to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~these~~ impacts ~~are considered~~remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
Air Quality			
Threshold (a): Conflict with or obstruct implementation of the applicable air quality plan. The project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	No mitigation measures required.	—
Threshold (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. Fugitive dust emissions generated during construction may cause significant impacts if not properly managed.	Significant	**AQ-1: Fugitive Dust Control** During clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403. All material excavated or graded shall be sufficiently watered in sufficient quantities to prevent the generation of visible dust plumes. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on-site or off-site shall be securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust. These control techniques shall be indicated in project specifications. In addition, where feasible, the following measures will be implemented to reduce fugitive dust emissions; • Minimize land disturbance • Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas • Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes • Cover trucks when hauling dirt • Stabilize the surface of dirt piles if not removed immediately • Limit vehicular paths on unpaved surfaces and stabilize any temporary roads	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
		• Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway • Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities • Provide an operational water truck on-site at all times and use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas	
Threshold (c): Expose sensitive receptors to substantial pollutant concentrations. Temporary construction and project operations would not exceed SCAQMD thresholds; therefore, sensitive receptors would not experience significant pollutant concentrations as a result of the project	Less than Significant	No mitigation measures required.	—
Geology and Soils			
Threshold (a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (ii.) strong seismic ground shaking or (iii.) seismic-related ground failure, including liquefaction. The project site has the potential to be exposed to	Significant	**GEO-1: Incorporation of and Compliance with the Recommendations in the Preliminary and Final Geotechnical Report.** The project shall be constructed in conformance with the recommendations included in the *Preliminary Geotechnical Investigation* prepared by Albus-Keefe & Associates, Inc. (Appendix C) and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans. The City of Long Beach shall confirm compliance with all recommendations in the *Preliminary Geotechnical Report* and Final Geotechnical Report prior to issuance of building permits. Recommendations include, but are not limited to, the following:	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
strong seismic shaking. If the proposed buildings are not designed to incorporate the recommendations identified in the Preliminary Geotechnical Report prepared for the project, significant impacts could occur.		CBC Compliance: • Design and construction shall be done in accordance with current CBC requirements in order to address any issues related to potential ground shaking at the site. Recommendations for a well-reinforced foundation system: • Additional testing of site soils shall be performed after site grading to confirm the expansion potential. • Foundations shall be designed for total differential static settlement up to 1 inch and 0.5 inch over 30 feet. • An allowable bearing value shall be used. • Lateral bearing for footings shall be determined. • Exterior continuous building footings shall be founded at a minimum depth of 18 inches. • Foundation excavations shall be observed by the project geotechnical consultant prior to placement of forms or reinforcement. Recommendations to limit soil expansion: • Earthwork and grading shall be performed in accordance with applicable requirements of California Occupational Safety and Health Administration and the Grading Codes of the City of Long Beach. • All existing artificial fills shall be removed to a maximum depth of 10 feet below existing ground surface. • Materials excavated from the site may be used as fill, provided they are free of deleterious materials and particles greater than 6 inches in maximum dimension. • Asphalt and concrete materials greater than 6 inches shall be reduced in maximum dimension and incorporate within the fill materials, provided they are mixed with granular materials and spread throughout the fill to eliminate nesting. • Construction of surcharge fills placed 15 feet above the proposed finish grades in selected areas is recommended.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
		• Edges of surcharge fills may be sloped 1.5:1 where space permits. Where insufficient room is present for slopes, a wire basket and geofabric system would be required. • Surcharge fills shall remain in place until the remaining settlement due to future final grades. • Surcharge fills shall be monitored by instruments prior to and after placement of fills above the current grades.	
Threshold (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. **Threshold (d): Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property.** The project site is partially located within an area identified as liquefiable and has a low to medium expansion potential. If the proposed buildings are not designed to incorporate the recommendations identified in the Preliminary Geotechnical Report prepared for the project,	Significant	**GEO-1: Incorporation of and Compliance with the Recommendations in the Preliminary Geotechnical Report**	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
significant impacts could occur.			
Greenhouse Gas Emissions			
Threshold (a): Generate greenhouse gas emissions, either directly or indirectly, that may have an adverse effect on the environment. No significant greenhouse gas emissions impacts were identified.	Less than Significant	No mitigation measures required.	—
Noise			
Threshold (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. Noise generated from temporary construction has the potential to increase ambient noise levels.	Significant	**NOI-1: City Noise Construction Compliance** Construction shall be limited to the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and Saturdays, between 9:00 a.m. and 6:00 p.m., in accordance with city standards. No construction activities shall occur outside of these hours or on federal holidays. Construction work on Sundays is prohibited unless the City of Long Beach's Noise Control Officer issues a permit. The permit may allow work on Sundays between 9:00 a.m. and 6:00 p.m. The following measures shall be implemented by the contractor to reduce potential construction noise impacts on nearby sensitive receptors. During all site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site. The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
Threshold (b): Generation of excessive groundborne vibration or groundborne noise levels. No significant groundborne vibration or groundborne noise impacts were identified.	Less than Significant	No mitigation measures required.	—
Transportation			
Threshold (a): Conflict with program, ordinance, or policy addressing the circulation system, including transit roadway, bicycle, and pedestrian facilities. The project would cause the intersection of Orange Avenue and Spring Street to deteriorate from LOS D to LOS E or F with mitigation implemented. Additionally, improvements at Orange Avenue and 32nd Street and Orange Avenue at I-405 Southbound Ramp are subject to approval by other agencies that do not have any plans to improve the impacted intersections, or if they do have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be	Significant	**TRAN-1: Orange Avenue at 32nd Street without Orange Avenue Bikeway Improvements[1]** Restripe the northbound approach for an exclusive right-turn lane. Modify the existing traffic signal as necessary. These improvements are subject to approval by the City of Signal Hill. **TRAN-2: Orange Avenue at Spring Street without Orange Avenue Bikeway Improvements** Restripe the northbound approach to provide dual left-turn lanes, a through lane, and a shared through-right turn lane. Restripe the southbound right-turn lane into a shared through-right turn lane. Modify the traffic signal from a two-phase signal to a five-phase signal with protected north-south left turn lands. Construct dual southbound left-turn lanes. These improvements are subject to the approval of the City of Long Beach and the City of Signal Hill. **TRAN-3: Orange Avenue at Spring Street with Orange Avenue Bikeway Improvements** Construct an exclusive right-turn lane for the northbound and southbound approaches. Modify the existing traffic signal as necessary. These improvements are subject to approval of the City of Long Beach and the City of Signal Hill and will need to consider the City of Long Beach's planned Class IV (Protected Bike Lane) bikeway design/layout for this intersection.	Significant and Unavoidable

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
operational by the project's opening year.		**TRAN-4: Orange Avenue at I-405 Southbound Ramp without Orange Avenue Bikeway Improvements**[1] Install a three-phase traffic signal; maintain existing intersection lane configuration. These improvements are subject to the approval of Caltrans. **TRAN-5: Orange Avenue at I-405 Southbound Ramp with Orange Avenue Bikeway Improvements**[1] Install a three-phase traffic signal. Remove one through lane from the northbound and southbound directions on Orange Avenue. With implementations of improvements associated with the Orange Avenue Class IV Bikeway, the section of Orange Avenue, from 32nd Street south of Spring Street, would be striped as a two-lane divided roadway, with on-street bike lanes and a buffer to separate bicycle traffic from vehicular traffic. These improvements are subject to the approval of Caltrans.	

[1] Mitigation measures are potentially infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). If the agency responsible for approval of the mitigation measure determines the measures to be infeasible, then according to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5), the City of Long Beach, as the lead agency, would not impose the measures. If Caltrans and/or the City of Signal Hill approves and permits the work required by these mitigation measures, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Notes:

Caltrans=California Department of Transportation; CBC=California Building Code; I-405=Interstate 405; LOS=level of service; SCAQMD=South Coast Air Quality Management District

Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
Biological Resources			
Potential significant direct impacts could occur if an active bird nest is taken.	Significant	**BIO-1: Migratory Bird Treaty Act-Covered Species** Should clearing and grubbing be required during the avian breeding season (February 15 through August 15), a qualified biologist shall conduct a pre-construction nest survey (in suitable areas) for migratory birds 10 days prior to construction. Should an active nest of any Migratory Bird Treaty Act-covered species occur within or adjacent to the project impact area, an appropriate buffer, as determined by a qualified biologist, shall be established around the nest, and no construction shall occur within this area until a qualified biologist determines the nest is no longer active or the young have fledged.	Less than Significant
Cultural Resources			
The inadvertent discovery of cultural materials or human remains during project-related ground-disturbing activities could result in significant impacts if not properly managed.	Significant	**CULT-1: Archaeologist and Monitor** An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards shall be retained by the project applicant and approved by the city to oversee and carry out the archaeological mitigation measures set forth in this document. The archaeologist shall conduct a pre-grading meeting and develop an appropriate monitoring program and schedule. As part of this program, the archaeologist shall select a qualified archaeological monitor to be retained by the project applicant and approved by the city. **CULT-2: Archaeological Monitoring** The qualified archaeological monitor shall monitor excavation and grading activities on the project site within native soils that have not been previously disturbed. In the event archaeological or cultural resources are unearthed during ground-disturbing activities, the archaeological monitor shall halt or redirect such activities away from the area of the find to allow evaluation. Work may continue outside of the vicinity of the find, at a sufficient distance to be determined by the archaeological monitor, as necessary, to provide compliance	Less than Significant

Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
		with the mitigation measures and the archaeological monitoring program. Deposits shall be treated in accordance with applicable federal, state, and local guidelines, including those set forth in California PRC Section 21083.2. In addition, if it is determined that an archaeological site is a historic resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 shall be implemented. The archaeologist shall evaluate the discovered resource(s) and, if significant, notify the project applicant, the city, and the representative of any Native American tribe that is a consulting party to the project under AB 52/SB 18, and then develop an appropriate treatment plan. Treatment plans shall consider preservation of the resource(s) in place as a preferred option. The archaeologist shall then prepare a report to be reviewed and approved by the city and file it with the project applicant, the city, and the South Central Coastal Information Center located at California State University, Fullerton. The report shall describe any resource(s) unearthed, the treatment of such resource(s), and the evaluation of the resource(s) with respect to the California Register of Historic Resources and the National Register of Historic Places. If the resource(s) are found to be significant, a separate report detailing the results of the recovery and evaluation process shall be prepared. The city shall designate one or more appropriate repositories for any cultural resources that are uncovered. **CULT-3: Unanticipated Discovery of Human Remains** If human remains are discovered during ground-disturbing activities or project construction, work shall be halted within at least 150 feet of the discovery location, and at a greater distance if determined necessary by the archaeological monitor or Native American monitor, and within any nearby area reasonably suspected to overlie human remains (PRC, Section 7050.5). The Los Angeles County coroner shall be notified immediately to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American	

Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
		burials, which fall within the jurisdiction of the California NAHC (PRC, Section 5097). In this case, the coroner shall contact NAHC. The descendants or MLD of the deceased shall be contacted, and work shall not resume until the MLD has made a recommendation to the project applicant regarding appropriate means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in PRC, Section 5097.98. **Treatment measures for remains of Native American origin:** Prior to the continuation of ground-disturbing activities, the project applicant shall arrange with the MLD a designated site location within the footprint of the project site for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate movable by heavy equipment shall be placed over the excavation opening to protect the remains. If this arrangement is not available or feasible, a 24-hour guard should be posted outside of construction hours. The Native American monitor and MLD tribal representative shall make every effort to recommend diverting the ground-disturbing activities and keeping the remains in situ and protected. If the ground-disturbing activities cannot be diverted, it may be determined that burials shall be removed. The Native American monitor and MLD tribal representative shall work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the MLD tribal representative, documentation shall be taken, which includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the MLD tribal representative for data recovery purposes. Cremations shall either be removed in bulk or as necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to	

Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
		be submitted to the MLD tribal representative and NAHC. No scientific study or utilization of any invasive diagnostics on human remains is authorized without prior express written permission of the MLD tribal representative. Each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects, and objects of cultural patrimony shall be removed to a secure container on site, if possible. These items should be retained and reburied within 6 months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the MLD tribal representative and the project applicant at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.	
Hydrology and Water Quality			
Construction-related activities, such as site preparation, grading, and paving, would occur and could result in temporary soil erosion that could subsequently degrade water quality.	Significant	**HWQ-1: NPDES Compliance and LID Plan** The contractor shall prepare a Stormwater Pollution Prevention Plan in accordance with the NPDES as part of Section 402 of the Clean Water Act. The Stormwater Pollution Prevention Plan shall include, but not be limited to (1) methods to minimize the footprint of the disturbed area; (2) construction-related erosion and sediment control BMPs; (3) controls to prevent tracking on and off the site; (4) materials management (delivery and storage); (5) spill prevention and control; (6) and waste management (e.g., concrete washout/waste management; sanitary waste management, etc.). The City of Long Beach Development Services Director, or appropriate designee, shall prepare an LID Plan, or equivalent, in compliance with LID Ordinance (Section 18.74.040 LBMC) and LID BMPs Design Manual (Long Beach Development Services 2013). Section 18.74.040 of LBMC requires runoff to be infiltrated, captured and reused, evapotranspired, and/or treated on site through stormwater BMPs listed in the LID BMPs Manual.	Less than Significant

Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
Tribal Cultural Resources			
The project site is within the ancestral land of the Gabrieleno Band of Mission Indians - Kizh Nation. The inadvertent discovery of tribal cultural materials or human remains during project-related ground-disturbing activities could result in significant impacts if not properly managed.	Significant	**TCR-1: Native American Monitoring** Prior to issuance of any Grading Permit for the project, the project applicant shall retain a Native American monitor approved by both the local tribal representative of the consulting party to the project under AB 52/SB 18 and listed under the NAHC's Tribal Contact list for the area of the project location. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response certification. In addition, the monitor(s) shall be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in CEQA, California PRC Division 13, Section 21083.2 (a) through (k). The monitor(s) shall be present on site during the construction phases that involve ground-disturbing activities. Ground-disturbing activities may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching within the project area. The Tribal Monitor/consultant shall complete daily monitoring logs that provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. If evidence of any tribal cultural resources is found during ground-disturbing activities, the monitor(s) shall have the capacity to halt or redirect construction in the vicinity of the find in order to recover and/or determine the appropriate plan of recovery for the resource. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Native American monitor has indicated that the site has a low potential for impacting tribal cultural resources. **Professional Standards:** Archaeological and Native American monitoring and excavation during construction projects shall be consistent with generally accepted current professional standards for these disciplines. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary	Less than Significant

Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures Identified in the Initial Study

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measure Significance After Mitigation	Significance After Mitigation
		objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and are preferred to have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in Southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified. **TCR-2: Recovery Procedures** All archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and Native American monitor. If the resources are Native American in origin, the tribal representative shall coordinate with the Project Applicant regarding treatment and curation of these resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) shall be the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis.	

Notes:

AB=Assembly Bill; BMP=best management practice; CEQA=California Environmental Quality Act; LBMC=Long Beach Municipal Code; LID=Low Impact Development; MLD=most likely descendants; NAHC=Native American Heritage Commission; NPDES=National Pollutant Discharge Elimination System; PRC=Public Resources Code; SB=Senate Bill

Areas of Known Controversy and Issues to be Resolved

Section 15123(b)(2) of the CEQA Guidelines require that an EIR identify areas of controversy known to the lead agency, including issues raised by agencies and the public.

During the public comment period for the Notice of Preparation (NOP), several comment letters were received regarding the project. The comments submitted on the NOP during the public review and comment period are included in Appendix A of this EIR. In general, areas of potential controversy known to the City of Long Beach include air quality, and traffic and transportation. These issues were considered in the preparation of this EIR, where appropriate, and are addressed in the environmental impact analysis presented in Sections 3.1 through 3.5 of this EIR.

Project Alternatives

Alternatives Evaluated

The environmental analysis for the proposed project evaluated the potential environmental impacts resulting from implementation of the proposed project, as well as alternatives to the proposed project. The alternatives are summarized below. A detailed discussion of the alternatives to the proposed project is provided in Chapter 5 of this EIR.

- **No Project/No Development Alternative** – This alternative assumes that the project site would not be developed with the proposed project, and the project site would remain in its current condition.
- **Reduced Project Alternative** – This alternative assumes that 2 buildings would be developed on the project site for industrial with accessory office uses for a total of 88,557 SF of floor area. Vehicular access to the project site would be provided via new driveways along Spring Street and Orange Avenue. Off-site street improvements and off-site park improvements would be the same as described for the proposed project.
- **Mixed-Use Development Alternative** – This alternative assumes the development of a 5-story mixed-use apartment building that includes 200-units and 56,000 SF of retail space on the street level. The building also includes a 4-story parking structure on a 7.8-acre site. The entrance for the parking structure would be on the north side of the property from Spring Street. Off-site street improvements and off-site park improvements would be the same as described for the proposed project.

Environmentally Superior Alternative

The No Project/No Development Alternative is considered the environmentally superior alternative to the proposed project as it would avoid the following impacts identified for the proposed project: air quality, geology and soils, noise, and transportation. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally-superior alternative is the No Project Alternative, the EIR shall also identify an environmentally-superior alternative among the other alternatives.” As shown in Table ES-3, the Reduced Project Alternative would be the environmentally superior alternative, because this alternative would reduce the potential impact associated with transportation and result in lower GHG emissions; however, this alternative would not meet all of the project objectives.

Table ES-3. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Alternative 2: Reduced Project	Alternative 3: Mixed-Use Development
Air Quality	Less than Significant with Mitigation	**Avoid** The existing baseline air emissions would remain the same as no new development would occur	**Similar** Emissions would be less compared to the proposed project; however, the potential for fugitive dust still remains.	**Greater** Emissions for construction activities would be similar compared to the proposed project; however, the potential for fugitive dust still remains. Emissions of all criteria pollutants for operation would be higher compared to the proposed project.
Geology and Soils	Less than Significant with Mitigation	**Avoid** Because no additional grading or development would occur, this alternative would avoid the potential geology/soils impact.	**Similar** Because grading and development would occur, this alternative would result in a potential impact similar to the proposed project.	**Similar** Because grading and development would occur, this alternative would result in a potential impact similar to the proposed project.
GHG Emissions	Less than Significant	**Avoid** The existing baseline GHG emissions would remain the same, as no new development would occur.	**Reduce** This alternative would emit less MT of CO_2e compared to the proposed project.	**Greater** This alternative would emit more MT of CO_2e compared to the proposed project and would be subject to a lower emissions threshold, therefore, resulting in a significant impact.
Noise	Less than Significant with Mitigation	**Avoid** This alternative would not change the existing conditions of the site, so there would be no potential to impact existing adjacent sensitive receptors.	**Similar** This alternative would result in similar construction noise and vibration impacts due to the distance from sensitive receptors.	**Similar** This alternative would result in similar construction noise and vibration impacts due to the distance from sensitive receptors.

Table ES-3. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Alternative 2: Reduced Project	Alternative 3: Mixed-Use Development
Transportation	Significant and Unavoidable	**Avoid** This alternative would not change the existing conditions of the site; therefore, there would be no increase in trip generation at the project site.	**Reduced** This alternative would generate 417 total daily trips, approximately 340 less daily trips than the proposed project and result in a reduced impact; however, the significant unavoidable impact on the intersections of Orange Avenue/Spring Street, Orange Avenue/32nd Street, and Orange Avenue/I-405 Southbound Ramps would remain.	**Greater** This alternative would generate 3,202 total daily trips, approximately 2,445 more daily trips than the proposed project, and would not reduce or avoid the significant unavoidable impact on the intersections of Orange Avenue/Spring Street, Orange Avenue/32nd Street, or Orange Avenue/I-405 Southbound Ramps. It would likely result in significant LOS impacts to other roadway facilities.

Notes:

Avoid=Impacts under this alternative avoided as compared to impacts for the proposed project; Reduced=Impacts under this alterative reduced as compared to impacts for the proposed project; Similar=Impacts under this alterative are similar to impacts for the proposed project; Greater=Impacts under this alternative greater to impacts for the proposed project

CO_2e=carbon dioxide equivalent; GHG=greenhouse gas; I-405=Interstate 405; LOS=level of service; MT=metric tons

1 Introduction

1.1 Overview of the Proposed Project

The proposed project is a business park/warehouse complex with off-site street improvements along Spring Street and Orange Avenue and park enhancements consistent with the Willow Springs Park Master Plan. The proposed business park/warehouse complex would consist of a total of 160,673 SF of floor area within 3 concrete "tilt-up" buildings comprised of industrial or manufacturing uses with accessory office uses. Building 1 of the project site is 39,812 SF, inclusive of 3,000 SF of mezzanine. Building 2 is 48,745 SF, inclusive of 3,000 SF of mezzanine. Building 3 is 72,116 SF, inclusive of 4,000 SF of mezzanine. The project is proposing to provide 162 standard surface lot parking stalls, 8 trailer spaces, and 18 loading docks. Project improvements are consistent with the land use and development standards of IM zoning district, in which the project is located.

1.2 Purpose of an EIR

The ~~Draft~~ Final EIR evaluates the environmental effects of the proposed project and has been prepared in compliance with CEQA (PRC Section 21000 et seq.) and CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq.). CEQA was enacted by the California legislature in 1970 and has the following four basic purposes:

1. Inform governmental decision makers and the public about the potential significant environmental effects of proposed activities
2. Identify ways in which environmental damage can be avoided or significantly reduced
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved

An EIR is an informational document intended to meet the four basic purposes described above. In instances where significant impacts cannot be avoided or mitigated, the project may nonetheless be carried out or approved if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the project's unavoidable significant environmental impacts

1.2.1 Agency Roles and Intended Uses of This EIR

All discretionary projects in the State of California are required to comply with CEQA if implementation of the project has the potential to result in either a direct physical change to the environment or a reasonably foreseeable indirect physical change to the environment. More specifically, a project requires environmental review if it incorporates a discretionary action undertaken by a public agency. Discretionary actions are activities that are supported in whole, or in part, through public agency contracts, grants, subsidies, etc., or activities requiring a public agency to issue a lease, permit, license, certificate, or other entitlement. If the project may have a "significant" impact on any environmental resource, an EIR must be prepared.

The City of Long Beach is the CEQA lead agency, and, as defined under CEQA Guidelines Section 15050, has principal responsibility for approving the proposed project. As the lead agency, the City of Long Beach also has primary responsibility for complying with CEQA. As such, the City of Long Beach has analyzed the environmental effects of the proposed project; the results of that analysis are presented in this ~~Draft~~ Final EIR. The City Council, in its role as the decision making body of the City of Long Beach, is responsible for certifying the Final EIR and approving the Findings of Fact and Statement of Overriding Considerations, pursuant to CEQA Guidelines Section 15090-15093, prior to project approval.

1.3 Document Organization

The content and format of this EIR meet the current requirements of CEQA and the CEQA Guidelines. This EIR is organized into the following chapters with supporting technical appendices, so the reader can easily obtain information about the proposed project and its specific issues.

Executive Summary: This chapter provides a summary of the potential impacts, mitigation measures of the proposed project and impact conclusions, and a summary of alternatives to the proposed project. Areas of controversy and issues to be resolved are discussed.

Chapter 1 – Introduction: This chapter describes the purpose and use of the EIR and the organization of the EIR. This chapter provides a description of the NOP and scoping process. A list of environmental topics addressed in the EIR is provided.

Chapter 2 – Project Description: This chapter describes the existing, general physical conditions of the project site, as well as past and current operations of the site. This chapter provides a detailed description of the proposed project, project components, and discretionary actions, as well as identifies the overall objectives for the proposed project.

Chapter 3 – Environmental Impact Analysis: For each environmental issue, this chapter presents the existing environmental setting and conditions before project implementation, regulatory environment, methods and assumptions used in the impact analysis, thresholds for determining significance, impacts that would result from the project, mitigation measures that would eliminate or reduce significant impacts, and the level of significance of each impact area after implementation of mitigation. This chapter further identifies cumulative projects in the vicinity, whether a cumulative impact would occur, if the contribution of the project would result in a cumulatively significant impact, and lists feasible mitigation measures that would eliminate or reduce any identified significant cumulative impact.

Chapter 4 – Other CEQA Considerations: This chapter identifies growth-inducing impacts, significant irreversible environmental changes associated with project implementation, a summary of the significant and unavoidable impacts, and a brief discussion of the environmental resource impacts found not to be significant.

Chapter 5 – Alternatives: This chapter evaluates a reasonable range of alternatives to the proposed project, including the No Project Alternative, and compares the significant environmental impacts of alternatives to the proposed project. Additionally, this chapter identifies an environmentally superior alternative.

Chapter 6 – References: This chapter provides a comprehensive listing of all references cited in this ~~Draft~~ Final EIR.

Chapter 7 – List of Preparers and Agencies Consulted: This chapter identifies the individuals involved in preparing this EIR and the agencies, organizations, and persons consulted.

Chapter 8 – Response to Comments: This chapter includes responses to all written comments received on the Draft EIR during the public comment period. Additionally, this chapter documents additional changes to the Draft EIR based on new information.

Appendices: Includes all NOP comment letters received, the project's IS, and all technical reports prepared for the project and other background or technical detail pertinent to this ~~Draft~~ Final EIR. Additional appendices include exhibits to support the response to comment chapter and the Mitigation, Monitoring, and Reporting Program for the project.

1.4 Notice of Preparation and Scoping Meeting

Development of the proposed project is subject to the requirements of CEQA, because it is an action subject to discretionary approval by a public agency (in this case, the City of Long Beach) that has the potential to result in a physical change in the environment.

The City of Long Beach began the environmental review process pursuant to CEQA by sending out an NOP, including an IS and Environmental Checklist (Appendix A). The NOP was distributed locally to interested local public agencies and the general public, as well as the State Clearinghouse for distribution to state responsible and trustee agencies.

The locally-distributed NOP was filed with the County Clerk on October 25, 2019. The NOP was also provided on the city's website. The CEQA-required 30-day NOP review period began on October 25, 2019, and identified that the city intended to prepare an EIR for the proposed project. The NOP served as a chance for interested local public agencies and the general public to comment on the proposed project and the scope and content of environmental issues to be examined in the EIR. Pursuant to CEQA, the NOP review period is 30 days, and, therefore, the comment period closed on November 25, 2019.

The NOP was also submitted to the State Clearinghouse for distribution to state responsible and trustee agencies. The CEQA required 30-day NOP review period began October 25, 2019, and closed November 25, 2019. A public scoping meeting was held on November 12, 2019, at 5:00 p.m. at the Long Beach Gas and Oil Auditorium, located at 2400 East Spring Street, Long Beach, CA 90806. Comments on the NOP regarding the proposed project were received by the city and are included in Appendix A.

1.5 Environmental Topics Addressed

Based on the City of Long Beach's preliminary evaluation of the probable effects of the proposed project and a thorough review of the comments on the NOP, the ~~Draft~~ Final EIR analyzes the effects associated with the following resources:

- Air Quality
- Geology and Soils
- GHG Emissions
- Noise
- Transportation

1.6 EIR Processing

~~This~~ The Draft EIR was distributed to various federal, state, regional, county, city agencies, and interested parties for a 45-day public review period in accordance with Section 15087 of the CEQA Guidelines. In addition, ~~this~~ the Draft EIR, including supporting technical documentation, is available to the general public for review during normal operating hours at the City of Long Beach, Department of Development Services, 411 West Ocean Boulevard, 2nd Floor, Long Beach, California 90802. Copies are available to the public at the city's Main Library (200 West Broadway), Burnett Neighborhood Library (560 East Hill Street) and Dana Neighborhood Library (3680 Atlantic Avenue), and can be viewed on the City of Long Beach website at the following address:

www.lbds.info/plnning/environmental_planning/environmental_reports.asp.

1.7 Comments Requested

Interested parties may provide written comments on the Draft EIR before the end of the 45-day public review and comment period. Written comments on the Draft EIR must be received by February 20, 2020, at 5 p.m. and submitted to:

Department of Development Services, Planning Bureau
ATTN: Scott Kinsey, Planner V
411 West Ocean Blvd, 3rd Floor
Long Beach, CA 90802

Comments may also be emailed to Scott.Kinsey@longbeach.gov.

Following the 45-day public review and comment period for the Draft EIR, the City of Long Beach will prepare a written response for each written comment received on the Draft EIR. The written comments and city's responses to those comments, as well as any required EIR changes, will be incorporated into a Final EIR. The Final EIR will be reviewed by the city at the time the proposed project is considered for approval.

2 Project Description

Chapter 2 provides a description of the Spring Street Business Park Project (project). This chapter defines the goals and objectives of the project and provides details regarding project components, which include a proposed business park/warehouse complex with off-site street improvements, along Spring Street and Orange Avenue, and park enhancements consistent with the Willow Springs Park Master Plan (City of Long Beach 2013a).

2.1 Project Location

The project site consists of approximately 7.8 acres of land located in the City of Long Beach, on the corner of Spring Street and Orange Avenue. The east side of the project site borders the City of Signal Hill. The project site is located less than 0.25 mile south of I-405 and approximately 1.75 mile east of I-710. The Long Beach Airport is less than 1 mile northeast of the project site, and the Pacific Ocean is approximately 3.5 miles south of the project site. The project site is not within the California Coastal Zone.

The project would be constructed and located on a single parcel (Assessor's Parcel Number 7212-009-021). The project site is vacant and is immediately bounded by Spring Street on the north, Willow Springs Park on the south, Orange Avenue on the east, and undeveloped property on the west (Figure 2-1). The project site can be accessed via Spring Street and Orange Avenue.

Figure 2-1. Regional Vicinity and Project Location

2.2 Environmental Setting

2.2.1 Project Background

The project site was owned by the City of Long Beach prior to the 1920s and was used by the city's Department of Water. From the 1920s through 2000, a natural gas processing and compression plant operated onsite. From 2000 to 2007, the plant was not operating; however, the plant was permitted by the South Coast Air Quality Management District (SCAQMD) as an emergency backup natural gas compressor plant for another facility operated by Signal Hill Petroleum, Inc. located across Orange Avenue to the east.

Since 2007, all plant operations have been removed, leaving the site vacant. As part of a larger 56-acre property, the project site has a No Further Action designation from the Los Angeles Regional Water Quality Control Board (2012), an Office of Environmental Health Hazard Assessment approved Human Health Risk Assessment (2005 and 2018), and a United States Environmental Protection Act (U.S. EPA) Approval for Polychlorinated Biphenyls remediation of site soils (2012).

2.2.2 Project Site

Current surface elevations within the project site range from approximately 95 feet above mean sea level in the eastern and central portion of the site to approximately 69 feet above mean sea level in the western central portion of the site. The project site currently drains as sheet flow to the northwest and southwest. Vegetation on the project site is limited to scattered weeds and isolated shrubs and trees.

The project site is currently zoned by the City of Long Beach as IM (City of Long Beach 2018). IM is one of four industrial districts established in the City of Long Beach Municipal Code (LBMC) Section 21.33.020 and is described as:

> The Medium Industrial (IM) district allows a wide range of industries and industrial processes that involve more intensive operations. The district provides areas where most industries may locate, provided they meet the performance standards defined in Section 21.33.090 (Performance Standards). While the emphasis is on industrial, manufacturing, and related uses, office and commercial uses intended to serve nearby industries and employees may be permitted. The performance and development standards are intended to allow a wide range of uses as long as those uses will not impact adjacent uses.

The project site is PlaceType Neo-Industrial in the City of Long Beach General Plan Land Use Element (City of Long Beach 2019a). Allowed uses include light industrial, clean manufacturing and offices, commercial uses accessory to creative business endeavors, and repurposed buildings with live/work artist studios. The project would be consistent with the recently adopted General Plan Land Use Element and zoning designations.

2.2.3 Surrounding Land Uses

The majority of land uses in the project vicinity are commercial and industrial in nature. Surrounding land uses include:

- **North – Spring Street:** The land across Spring Street is occupied by a MySnug camper shell sales facility and Maxim Crane Works yard. This area is within the City of Long Beach and is zoned as IM.

- **East – Orange Avenue:** The land across Orange Avenue is occupied by a Signal Hill Petroleum facility and Signal Hill Business Park in the City of Signal Hill. These parcels are zoned as General Industry (GI) by the City of Signal Hill (City of Signal Hill 2014).
- **South –** The land south of the project site is part of Willow Springs Park. There are oil wells located throughout the park. This area is zoned as Park (P).
- **West –** The land west of the project site is vacant and is zoned Park (P).

2.3 Project Objectives

The following objectives have been identified for the proposed project:

- Provide an industrial and office development project consistent with the site's land use regulations that maximizes the development potential of the site
- Provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities
- Provide a modern, urban development site in place of the existing vacant site which was previously a natural gas processing and compression plant
- Provide an economically-viable development program for the property
- Increase the City of Long Beach's professional industrial and office inventory which would accommodate additional employment within the city
- Maintain consistency with the City of Long Beach General Plan and zoning ordinances
- Provide needed infrastructure improvements including roadway, sidewalk, and park improvements which would correct existing public infrastructure deficiencies

2.4 Project Characteristics

2.4.1 Project Design

Signal Hill Petroleum, Inc., the project applicant, proposes to construct a business park/warehouse complex complete with off-site street improvements along Spring Street and Orange Avenue and park enhancements consistent with the Willow Springs Park Master Plan. Project improvements are consistent with the land use and development standards of IM zoning district. The primary components are described below.

Business Park/Warehouse Complex

The project includes development of three new concrete "tilt-up" buildings for new industrial[1] with accessory office uses for a total of 160,673 SF of floor area. The three buildings vary in size and each includes mezzanine space and 25 percent of the square footage of each building is office area (Figure 2-2). Building 1 would be 39,812 SF, inclusive of 3,000 SF of mezzanine, and allow up to 9,953 SF of office area. Building 2 would be 48,745 SF, inclusive of 3,000 SF of mezzanine, and allow up to 12,186 SF of office area. Building 3 is 72,116 SF, inclusive of 4,000 SF mezzanine, and allow up to 18,029 SF of office area. All three buildings would be 45 feet in height. ~~Building 1 and 2 would~~

[1] Cold storage warehouse use is not proposed as part of the project.

~~be 28 feet in height and Building 3 would be 30 feet in height.~~ Figure 2-3 through Figure 2-6 depicts the visual simulations of the project site.

A total of 162 auto parking spaces would be provided, including 6 Americans with Disabilities Act accessible, 3 van accessible, 12 clean air vehicle, and 8 electric vehicle charging stations. Additionally, 8 trailer parking spaces would be provided. Pursuant to Chapter 21.41 of the Zoning Regulations, if ancillary office space comprises less than 25 percent of the total gross floor area of a warehouse or manufacturing use, the square footage of the office use is calculated in the parking calculation rate for the warehouse or manufacturing use, which is 1 space per 1,000 SF of gross floor area. With a total square footage of industrial/manufacturing and accessory office uses of 160,673 SF, the total number of required parking spaces is 161. Therefore, the number of provided parking spaces, 162, is sufficient under the LBMC.

Vehicular access to the project site would be provided via new driveways along Spring Street and Orange Avenue. The project driveway at Spring Street would include installation of unsignalized driveway located approximately 300 feet to the west of Orange Avenue. To restrict illegal left-turns out of this driveway, a raised curbed diverter island would be installed to prohibit left-turns and restrict movements to right-turn in and right-turn out only. These improvements are subject to approval of the City of Long Beach.

Two design scenarios are proposed for the project driveway at Orange Avenue based on whether the City of Long Beach planned Class IV Protected Bike Lane bikeway along Orange Avenue would be constructed (see Section 3.5, Transportation, for a detailed discussion of the Orange Avenue bikeway improvements). The two scenarios include:

- **With Orange Avenue Bikeway Improvements** – To provide full access to the project site, the applicant would install an unsignalized project driveway ~~two-phase traffic signal with permissive phasing for the northbound left turn lane. The signal is proposed~~ approximately 260 feet south of Spring Street along Orange Avenue. The applicant would modify the northbound approach to accommodate a 100-foot left-turn lane and one through lane. For the eastbound approach, the applicant would install a shared left/right turn lane. These improvements are subject to the approval of the City of Long Beach and/or the City of Signal Hill.
- **Without Orange Avenue Bikeway Improvements** – To provide full access to the project site install an unsignalized project driveway approximately 260 feet south of Spring Street along Orange Avenue. ~~two-phase traffic signal with permissive phasing for the northbound left turn lane.~~ The applicant would modify the northbound approach to accommodate a 100-foot left-turn lane and two through lanes. For the eastbound approach, the applicant would install a shared left/right turn lane. These improvements are subject to the approval of the City of Long Beach and/or the City of Signal Hill.

Figure 2-2. Project Site Plan

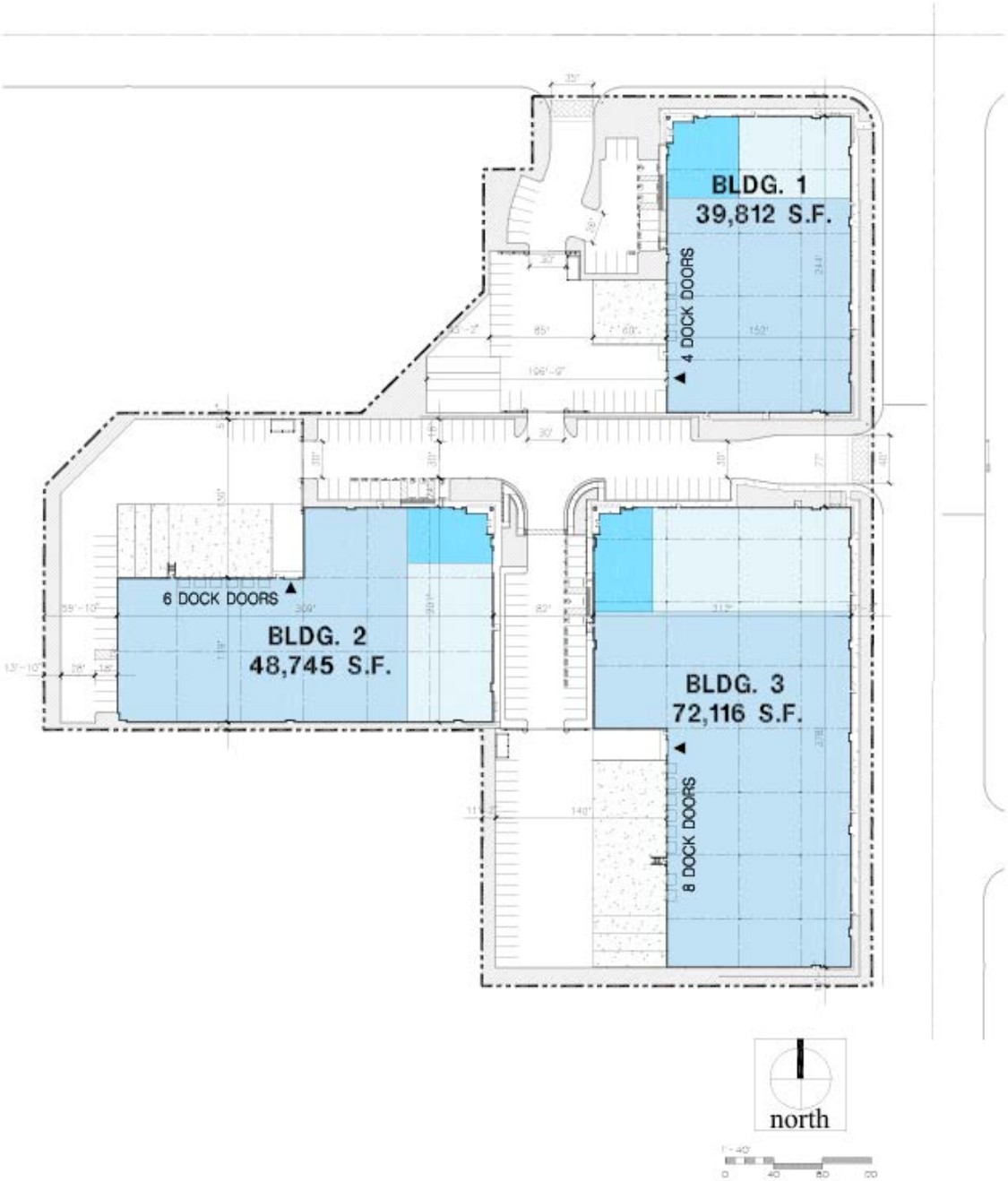


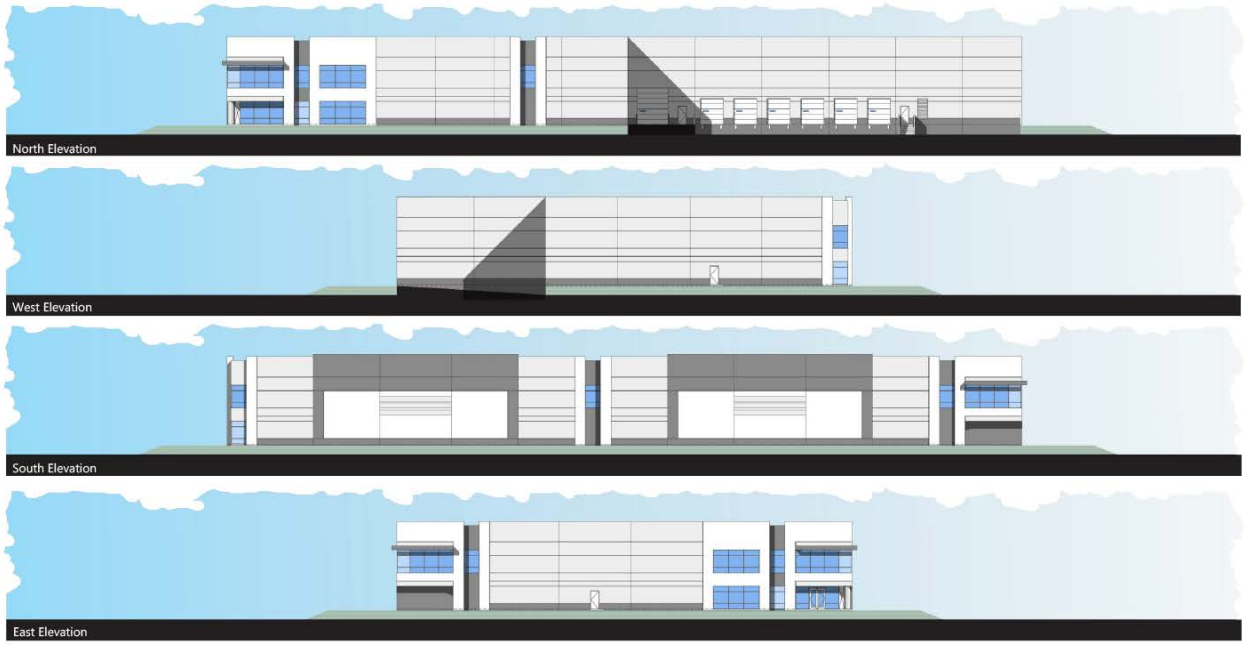
Figure 2-3. Visual Simulations of the Project Site

Source: Signal Hill Petroleum 2018

Figure 2-4. Visual Simulation of Building 1

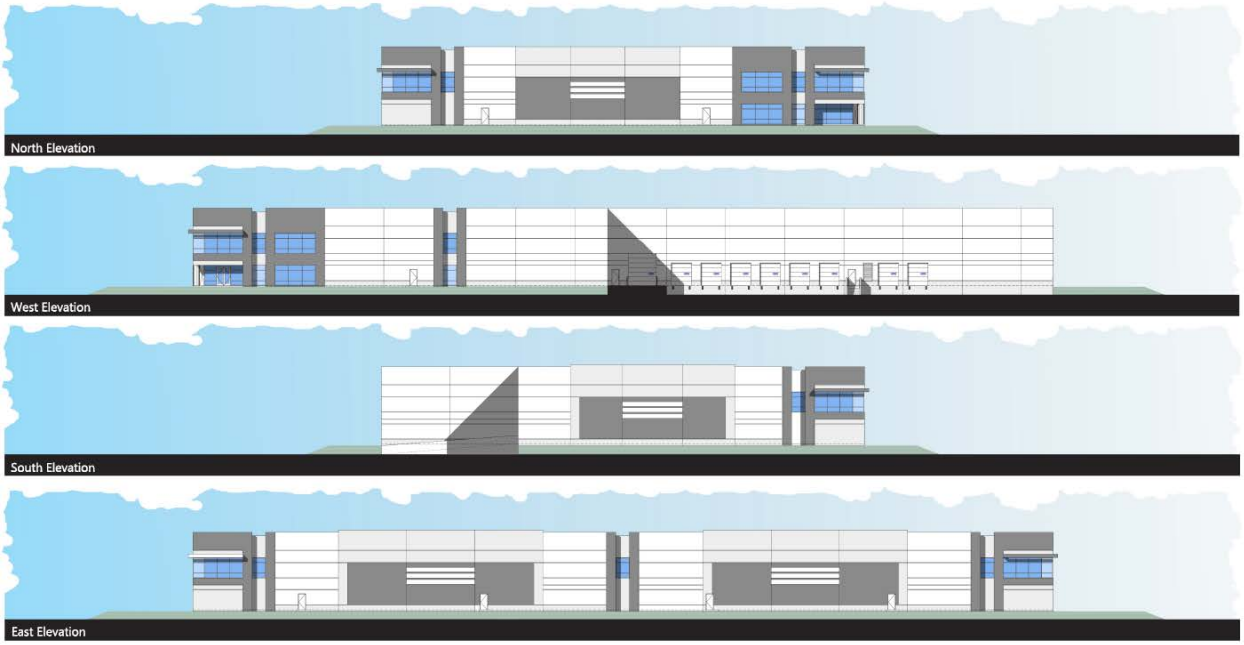
Source: Signal Hill Petroleum 2018

Figure 2-5. Visual Simulation of Building 2



Source: Signal Hill Petroleum 2018

Figure 2-6. Visual Simulation of Building 3



Source: Signal Hill Petroleum 2018

Off-Site Street Improvements

The project includes off-site improvements to adjacent city streets. In order to achieve 100-foot public right-of-way, Orange Avenue would be widened adjacent and east of the project site. This includes demolition and reconstruction of the sidewalk pavement, curb, curb gutter, bus pad, and roadway. Orange Avenue would have a 40-foot wide roadway and ~~10~~8-foot wide sidewalk (5-foot-wide sidewalk and 3-foot-wide parkway area) located on both sides of the roadway, 6-foot-wide bike lane, and a 6-foot-wide median within the 20-foot dedication area. Immediately south of the Spring Street intersections, improvements would include a 5-foot sidewalk, a 7-foot-wide bike lane, and an 8-foot-wide median to accommodate a bus stop. ~~An additional 2 feet of sidewalk would be provided in the vicinity of the bus stop on Orange Avenue adjacent to the project site, achieving a 12-foot-wide public sidewalk.~~ Unused driveways and curb cuts would be replaced with full-height curb, curb gutter, and sidewalk. The existing sidewalk and curb ramps located at the southwest, northwest, and northeast corners or Orange Avenue and Spring Street would be demolished and new Americans with Disabilities Act compliant curb ramps would be constructed.

A sidewalk and streetlights currently exist on the northern boundary of the project site along Spring Street. As part of the project, the existing sidewalk pavement, curb, and curb gutter would be reconstructed by repairing cracked, deteriorated, or uplifted/depressed sections.

Additionally, as part of the street improvements, the project would include the resetting-to-grade of manholes, pull boxes, meters, and other existing facilities in conjunction with the required street improvements; new crosswalks at project site entrances; and construction of new bicycle facilities along Orange Avenue and Spring Street in accordance with the City of Long Beach's Bicycle Master Plan (or contribution of a fair share fee to the city for future implementation).

The existing crosswalks at the intersection of Orange Avenue and Spring Street would be upgraded to continental style crosswalks, using thermoplastic materials, per the latest City of Long Beach standards, as approved by the City Traffic Engineer.

Off-Site Park Improvements

The project includes grading, planting, and irrigating of the property west and south of, and immediately adjacent to, the project site to create a park buffer zone, consistent with future plans for the city's Willow Springs Park. Visual simulations of the park improvements are depicted on Figure 2-7.

Figure 2-7. Visual Simulation of the North Elevation of Building 2

Source: Signal Hill Petroleum 2018

2.4.2 Project Construction and Schedule

Construction of the project would occur in stages. Site preparation includes clearing and grubbing of vegetation and removal of any debris. Following site preparation, the project site would need to be graded, followed by building construction. The next stage would be paving, followed by architectural coating and landscaping. Project construction is anticipated to occur over 9 months, with anticipated completion in 2021.

2.5 Required Project Approvals

In conformance with Section 15050 and 15367 of CEQA Guidelines, the City of Long Beach has been designated as the "lead agency," which is defined as "the public agency which has the principal responsibility for carrying out or approving a project." Approvals by the lead agency required for development of the project include, but may not be limited to, the following:

- Site Plan Review
- Final EIR certification
- Ministerial permits and approvals, including grading permits, building permits, haul route permits, and temporary street closures

Additional approvals by other agencies would be required for off-site street improvements. These include, but are not limited to:

- **Caltrans** – Encroachment permits would be required for improvements at Caltrans jurisdictional intersections
- **City of Signal Hill** – Permits and approvals for street or intersection improvements at Signal Hill jurisdictional intersections

This page is intentionally blank.

3 Environmental Analysis

Introduction to the Environmental Analysis

Sections 3.1 through 3.5 of this ~~Draft~~ Final EIR contain discussions of the potential project-related significant environmental effects resulting from implementation of the proposed project, including information related to existing project site conditions, criteria for determining significance of potential environmental impacts, analyses of the type and magnitude of environmental impacts, feasible mitigation measures that would reduce or avoid significant environmental impacts, and cumulative impacts.

This chapter provides an analysis of the following potential environmental impacts of the proposed project:

- Section 3.1, Air Quality
- Section 3.2, Geology and Soils
- Section 3.3, Greenhouse Gas Emissions
- Section 3.4, Noise and Vibration
- Section 3.5, Transportation

It was determined during preparation of the IS and Environmental Checklists (Appendix A) that the project would have either a less than significant impact or no impact associated with the following topics: aesthetics, agriculture and forestry resources, energy, hazards and hazardous materials, land use, mineral resources, public services, population and housing, recreation, utilities and services systems, and wildfire. Additionally, the following topics were determined to have sufficient analyses in the IS and were identified to be less than significant with mitigation: biological resources, cultural resources, hydrology and water quality, and tribal cultural resources. These topics are not included in this chapter; Section 4.4, Effects Not Found Not to be Significant, contains a summary of these topics.

Format of the Environmental Analysis

Each of the five environmental topic sections of this chapter include the following subsections.

Overview

This subsection provides a brief overview of each resource section.

Environmental Setting

According to Section 15125 of the CEQA Guidelines, an EIR must include a description of the physical environmental conditions in the vicinity of the project. The EIR should describe the physical environmental conditions as they exist at the time the NOP is published in order to set a baseline physical condition by which a lead agency determines whether an impact is significant. For the purposes of this EIR, the environmental setting described in each of the following sections will be the physical condition which existed on October 25, 2019, the date the NOP was published.

Regulatory Framework

This subsection provides a summary of regulations, plans, policies, and laws at the federal, state, and local levels that are relevant to the proposed project as they relate to the particular environmental resource area. Compliance with the applicable laws and regulations is mandatory, unless otherwise noted within the analysis. Therefore, as it relates to the project impact analysis, compliance is assumed because it is required by law, and mitigation would generally not be required when compliance with an existing law or regulation would either avoid or reduce a significant impact to a level less than significant.

Analysis of Impacts

This subsection describes the methodology used for the analysis of the potential environmental impacts of the proposed project and identifies the criteria for determining the significance of potential impacts. The discussion of impacts is based on the applicable thresholds of significance. The analysis may be separated by construction and operation wherever relevant. Each threshold of significance discussion includes a conclusion as to whether the environmental impacts would be considered significant and unavoidable, less than significant with mitigation incorporated, or less than significant (see definitions below). Where potential impacts are significant, mitigation measures are identified, as feasible, to minimize, rectify, reduce, eliminate, or compensate for the significant impacts with the goal of reaching a less-than-significant impact determination. This subsection also includes a cumulative impact analysis based on a list of projects that are reasonably foreseeable, planned, proposed, or under construction in the vicinity of the project site

Methodology

This subsection describes the means used to analyze potential impacts on a particular resource, discussing the steps followed, and listing any studies or databases relied on for arriving at the significance conclusions.

Thresholds of Significance

Thresholds of significance are the criteria used to assess whether potential environmental impacts are significant. The significance criteria used in this analysis are based on the recommendations provided in Appendix G of the CEQA Guidelines. The thresholds of significance define the type, amount, and/or extent of impact that would be considered a significant adverse change in the environment. The thresholds of significance are intended to assist the reader in understanding how an impact is determined to be significant.

Impact Analysis

According to Section 15126.2 of the CEQA Guidelines, an EIR must identity and focus on the significant effects of the proposed project on the environment by assessing direct and indirect effects, as well as short-term, long-term, on-site, and off-site effects. This EIR utilizes the following terms to describe the level of significance of impacts identified during the course of the environmental analysis.

No Impact. This term is used when construction or operation of the project would have no adverse effect on a resource.

Less than Significant. This term is used to refer to impacts resulting from implementation of the project that are not likely to exceed the defined threshold of significance. This term is also used to refer to potentially significant impacts that are reduced to a level that does not exceed the defined thresholds of significance after implementation of mitigation measures.

Significant. This term is used to refer to impacts resulting from implementation of the proposed project that exceed the defined threshold of significance before identification of mitigation measures. Section 15382 of the CEQA Guidelines states that a "significant effect" is "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including, land, air, water, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significance effect on the environment [but] may be considered in determining whether they physical change is significant." For impacts that exceed a threshold of significance, mitigation measures that avoid or reduce the potential impact are identified. In this case mitigation may cause the impact to be reclassified as less than significant if it is sufficiently reduced or the impact may remain significant, in which case it is referred to as a significant and unavoidable impact.

Significant and Unavoidable. This term is used to refer to significant impacts resulting from implementation of the proposed project that cannot be eliminated or reduced to below standards or significance through implementation of feasible mitigation measures.

Mitigation Measures

CEQA Guidelines Section 15126.4 requires an EIR to "describe feasible measures which could minimize significant adverse impacts." Mitigation includes avoiding an impact, minimizing an impact, rectifying the impact by restoring or rehabilitation, reducing or eliminating the impact over time, or compensating for the impact by replacing or providing substitute resources or environments. CEQA Guidelines define feasible as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." This subsection lists the mitigation measures identified to reduce the severity of potential impacts resulting from implementation of this project. These mitigation measures will be included in the Mitigation, Monitoring, and Reporting Program and adopted as conditions of approval of the project.

Cumulative Impacts

Section 15355 of the CEQA Guidelines define a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA Guidelines [Section 15130(a)(1)] further state that "an EIR should not discuss impacts which do not result in part from the project."

Section 15130(a) of the CEQA Guidelines provides that "[A]n EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable…" Cumulatively considerable, as defined in Section 15065(a)(3), "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

An adequate discussion of significant cumulative impacts requires either: (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency"; or (2) "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been

adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact." In this case, the City of Long Beach is using Option (1) above; a list of past, present, and probable future projects that could potentially produce related or cumulative impacts; including projects in the City of Signal Hill, which is adjacent to the project site.

The CEQA Guidelines recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project's contribution to a significant cumulative impact would be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency must identify facts and analysis supporting its conclusion that the contribution would be rendered less than cumulatively considerable (CEQA Guidelines Section 15130(a)(3)).

Cumulative Projects

The City of Long Beach identified 27 cumulative projects in the project vicinity, including projects in the City of Long Beach and projects in the City of Signal Hill. Figure 3-1 depicts the location of the cumulative projects in relation to the proposed project. Table 3-1 lists the cumulative projects and provides a brief description.

Figure 3-1. Cumulative Projects in the Vicinity of the Project Site

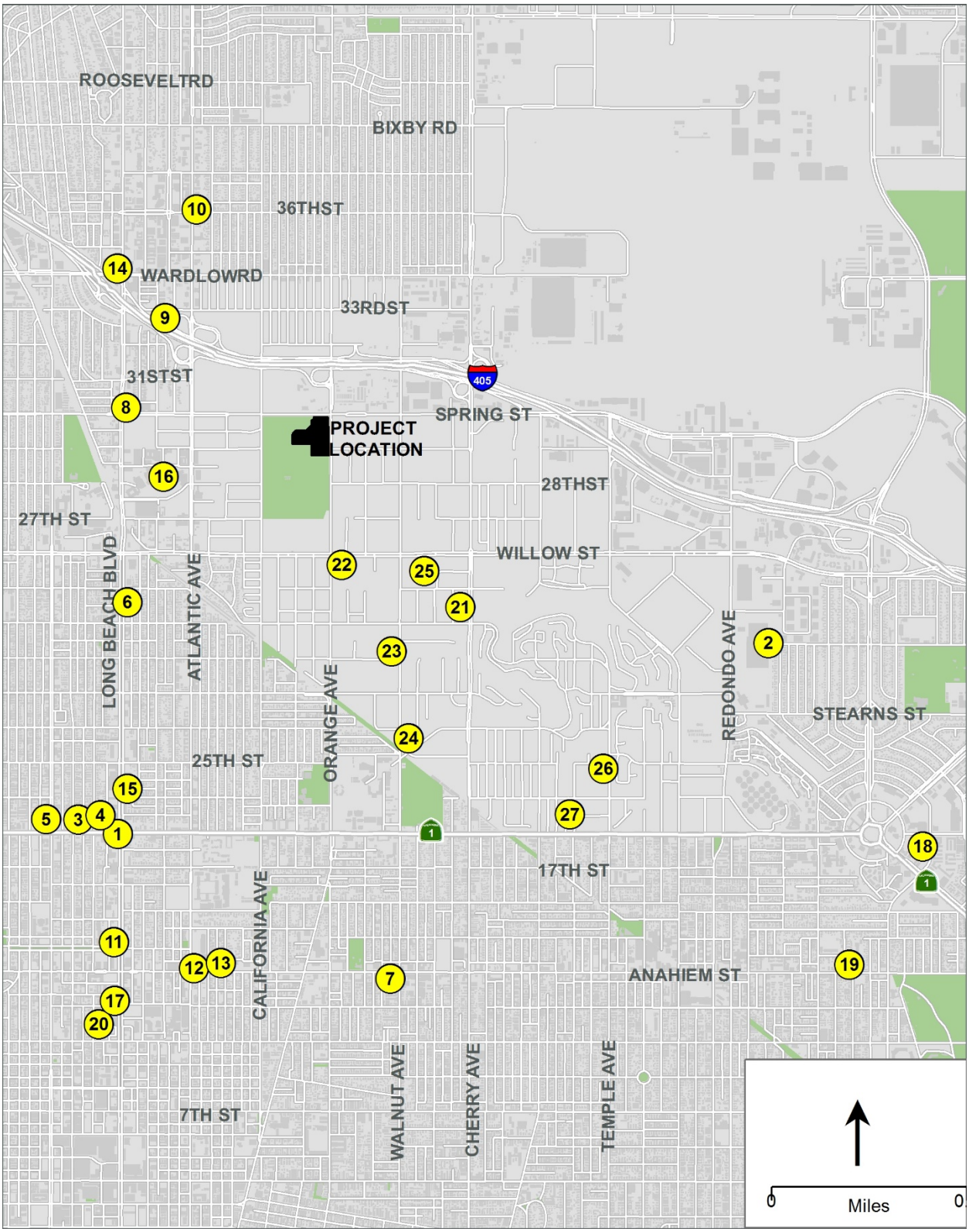


Table 3-1. Cumulative Projects

Number	Cumulative Project	Location/Address	Description
City of Long Beach			
1.	Las Ventanas Apartments	1795 Long Beach Boulevard	101 DU apartments and 4,051 SF ground floor retail
2.	Pacific Edge Industrial	2300 Redondo Avenue	410,500 SF warehouse
3.	101 East Pacific Coast Highway/1814 Pine Avenue	101 East Pacific Coast Highway/1814 Pine Avenue	26 DU low-rise multifamily residential over 5,499 SF retail
4.	1836-1852 Locust Avenue	1836-1852 Locust Avenue	48 DU affordable housing and 3,600 SF retail
5.	Mendoza Project	201-245 West Pacific Coast Highway/1827 Pacific Avenue	36,000 SF commercial on the ground floor with 154 DU mid-rise multifamily residential
6.	Long Beach Senior Living	2400 and 2450 Long Beach Boulevard/2459 Elm Avenue	145 bed assisted living
7.	Anaheim Street and Walnut Avenue Development Project	1500 East Anaheim Street/1209 Walnut Avenue	88 DU mid-rise multifamily residential affordable housing with 18,000 SF medical office building on ground floor
8.	Salvation Army	3012 Long Beach Boulevard	1 soccer field and 24,608 SF recreational community center
9.	Harbor Freight	530 East 33rd Street	15,432 SF commercial building
10.	Starbucks	3602 Atlantic Avenue	1,800 SF coffee shop with drive-through window
11.	1401 Long Beach Boulevard/217 East 14th Street	1401 Long Beach Boulevard/217 East 14th Street	142 DU low-rise multifamily residential and 4,000 SF retail
12.	1320 Atlantic Avenue	1320 Atlantic Avenue	6,400 SF fast food with drive-through and 4,020 SF restaurant
13.	739 East Anaheim Street	739 East Anaheim Street	20,120 SF supermarket and 3,600 SF fast food with drive-through
14.	3435-3459 Long Beach Boulevard/3464 Locust Avenue	3435-3459 Long Beach Boulevard/3464 Locust Avenue	100,000 SF office and 5 DU low-rise multifamily residential
15.	1900-1940 Long Beach Boulevard	1900-1940 Long Beach Boulevard	95 DU mid-rise multifamily residential and 12,400 SF retail
16.	Long Beach Memorial Medical Center	2801 Atlantic Avenue	80,000 SF medical office building to replace an existing 12,000 SF Ranch House/Women, Infant, and Children Medical Center building

Table 3-1. Cumulative Projects

Number	Cumulative Project	Location/Address	Description
17.	1101-1105, 1107, 1145, and 1157 Long Beach Boulevard	1101-1105, 1107, 1145, and 1157 Long Beach Boulevard	121 DU mid-rise multifamily residential and 5,000 SF retail
18.	1775 Ximeno Avenue	1775 Ximeno Avenue	10,306 SF fast-food with drive-through window
19.	4223 East Anaheim Street	4223 East Anaheim Street	11,576 SF medical office building
20.	1112 Locust Avenue	1112 Locust Avenue	95 DU mid-rise multifamily residential and 12,400 SF retail
City of Signal Hill			
21.	Signal Hill Heritage Square	West of Cherry Avenue, east of Rose Avenue, south of Crescent Heights Street, and north of Burnett Street	4 DU single family residential, 199 DU apartments, 10,700 SF retail, 19,500 SF quality restaurant, 5,000 SF high-turnover sit-down restaurant, and 1,600 SF coffee shop with drive-through window
22.	2550 Orange Avenue Industrial	2550 Orange Avenue Industrial	144,919 SF manufacturing/warehouse to replace an existing golf driving range with 21 hitting positions
23.	2351 Walnut Avenue	2351 Walnut Avenue	7,904 SF warehouse and 2,051 SF office
24.	2020 Walnut Avenue	2020 Walnut Avenue	110,300 SF industrial park
25.	Crescent Square	Northeast corner of Walnut Avenue and Crescent Heights Street	25 DU single family residential
26.	The Courtyard	1939 Temple Avenue	10 DU condominiums
27.	2599 Pacific Coast Highway	2599 Pacific Coast Highway	14 DU low-rise multifamily residential

Notes:
DU=dwelling unit; SF=square foot

This page is intentionally blank.

3.1 Air Quality

3.1.1 Overview

This section describes the existing air quality conditions and applicable laws and regulations associated with air quality, as well as an analysis of the potential effects resulting from implementation of the proposed project. Information contained in this section is summarized from the *Air Quality and Greenhouse Gas Technical Memorandum* (Appendix B).

3.1.2 Environmental Setting

Climate

The project is located in the City of Long Beach, an area within the South Coast Air Basin (SCAB), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in SCAB is administered by the SCAQMD.

SCAB climate is determined by its terrain and geographical location. SCAB is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary, and high mountains surround the rest of the SCAB. The region lies in the semi-permanent high pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the SCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). The annual average maximum temperature recorded at the Long Beach Daugherty Field Station, the closest climatological station to the project site, is 74.2°F, and the annual average minimum is 54.8°F. January is typically the coldest month in this area of the SCAB. The majority of annual rainfall in the SCAB occurs between November and April. Average rainfall measured at the Long Beach Daugherty Field Station varies from 2.90 inches in February to 0.19 inch or less between June and September, with an average annual total of 12.01 inches.

The SCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed from midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Inversion layers are essential in determining ozone (O_3) formation. O_3 and its precursors will mix and react to produce higher concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as carbon monoxide (CO). Particles of 10 micrometers and smaller (PM_{10}) are both directly emitted and created indirectly in the atmosphere as a result of chemical reactions. Concentration levels are directly related to inversion layers because of the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, when heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest concentration of pollutants. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore and east into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are from CO and oxides of nitrogen (NO_x) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

Monitored Air Quality Pollutants

SCAQMD monitors air quality conditions at 37 locations throughout SCAB. The closest monitoring stations to the project site are the Long Beach – Hudson Station, located at 2425 Webster Street and the South Long Beach Station located at 1305 Pacific Coast Highway. Table 3.1-1 shows pollutant levels, the state and federal standards, and the number of exceedances recorded at these stations from 2015 to 2017.

Table 3.1-1. Ambient Air Quality Monitoring Concentrations

Pollutant	Pollutant Concentration and Standard	Maximum Concentration		
		2015	2016	2017
CO	Maximum 1-hour concentration (ppm)	3.3	3.3	3.9
	Days> 20 ppm (state 1-hour standard)	0	0	0
	Days> 35 ppm (federal 1-hour standard)	0	0	0
	Maximum 8-hour concentration (ppm)	2.2	2.2	2.6
	Days> 9 ppm (state 8-hour standard)	0	0	0
	Days> 9 ppm (federal 8-hour standard)	0	0	0
O_3	Maximum 1-hour concentration (ppm)	0.087	0.079	0.082
	Days> 0.09 ppm (state 1-hour standard)	0	0	0
	Maximum 8-hour concentration (ppm)	0.066	0.059	0.068
	Days> 0.070 ppm (state 8-hour standard)	0	0	0
	Days> 0.070 ppm (federal 8-hour standard)	0	0	0

Table 3.1-1. Ambient Air Quality Monitoring Concentrations

Pollutant	Pollutant Concentration and Standard	Maximum Concentration		
		2015	2016	2017
NO_2	Maximum 1-hour concentration (ppm)	0.102	0.076	0.090
	Days> 0.18 ppm (state 1-hour standard)	0	0	0
	Days> 0.10 ppm (federal 1-hour standard)	1	0	0
	Annual arithmetic mean (ppm)	0.020	0.019	0.018
	Exceed 0.030 ppm? (state annual standard)	No	No	No
	Exceed 0.053 ppm? (federal annual standard)	No	No	No
PM_{10}	Maximum 24-hour concentration (µg/m^3)	62	57	71
	Days> 50 µg/m^3 (state 24-hour standard)	2	4	2
	Days> 150 µg/m^3 (federal 24-hour standard)	0	0	0
	Annual arithmetic mean (µg/m^3)	26.5	27.8	14.7
	Exceed 20 µg/m^3? (state annual standard)	Yes	Yes	No
$PM_{2.5}$	Maximum 24-hour concentration (µg/m^3)	48.3	28.9	56.3
	Days> 35 µg/m^3 (federal 24-hour standard)	4	0	5
	Annual arithmetic mean (µg/m^3)	10.2	9.5	11.0
	Exceed 12 µg/m^3? (state annual standard)	No	No	No
	Exceed 12 µg/m^3? (federal Annual Standard)	No	No	No

Notes:
µg/m^3=microgram per cubic meter; CO=carbon monoxide; NO_2=nitrogen dioxide; O_3=ozone; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; ppm=parts per million

Carbon Monoxide

CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircrafts, and trains. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. As identified in Table 3.1-1, the CO concentrations in the project area have not exceeded the federal or state standards in the past 3 years.

Ozone

O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes volatile organic compounds (VOC), and NO_X react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, the components of O_3, are automobile exhaust and industrial sources. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. As identified in Table 3.1-1, the 8-hour O_3 standards were not exceeded in the past 3 years.

Oxides of Sulfur

Sulfur Dioxide (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children.

Coarse Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. When inhaled, PM_{10} particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. As identified in Table 3.1-1, the state and federal PM_{10} standards were exceeded in 2015 and 2016.

Fine Particulate Matter

Fine particulate matter, or particles of 2.5 micrometers and smaller ($PM_{2.5}$), is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases, such as SO_2, NO_X, and VOC. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility. As identified in Table 3.1-1, the federal $PM_{2.5}$ standards were exceeded in 2015 and 2017.

Volatile Organic Compounds or Reactive Organic Gases

VOCs are carbon-containing compounds that evaporate into the air. VOCs contribute to the formation of smog and may be toxic. VOCs often have an odor, and examples include, gasoline, alcohol, and the solvents used in paints. The SCAQMD does not directly monitor VOCs. There are no specific state or federal VOC thresholds, as they are regulated by individual air districts as O_3 precursors.

Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics, particulate matter, and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The majority of the land uses in the project area are commercial and industrial in nature. The Calvary Chapel – Signal Hill church is located approximately 150 feet east of the project site across Orange Avenue and is the closest sensitive receptor to the project site. The closest residences to the project site are the homes located 1,200 feet to the north across I-405. Due to the distance of the nearest sensitive receptors to the project site, a Health Risk Assessment was not conducted.

3.1.3 Regulatory Framework

Table 3.1-2 identifies and summarizes laws, regulations, and plans relative to air quality. Table 3.1-3 lists the federal and state air pollutant standards, the principal health and atmospheric effects, the typical sources, and the current attainment status of the criteria pollutant emissions.

Table 3.1-2. Applicable Laws, Regulations, and Plans for Air Quality

Laws, Regulation, or Plan	Description
Federal	
FCAA	The FCAA, enacted in 1963, established federal air quality standards known as NAAQS. NAAQS standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: CO, NO_2, O_3, particulate matter, which is broken down for regulatory purposes into PM_{10} and $PM_{2.5}$, and SO_2. In addition, national standards exist for Pb. The NAAQS standards are set at levels that protect public health, with a margin of safety, and are subject to periodic review and revision. Toxic air contaminants are covered as well. The FCAA requires the U.S. EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The U.S. EPA has classified the SCAB as attainment/maintenance for CO, PM_{10}, and NO_2 and nonattainment for O_3 and $PM_{2.5}$. In addition, the Los Angeles County portion of the SCAB is in nonattainment for Pb.

Table 3.1-2. Applicable Laws, Regulations, and Plans for Air Quality

Laws, Regulation, or Plan	Description
State	
CCAA	The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts explicit authority to implement transportation control measures and regulate indirect sources of air pollution. The CCAA focuses on attainment of the California Ambient Air Quality Standards, which for certain pollutants and averaging periods are more stringent than the comparable federal standards. The following are criteria pollutants which both the CARB and U.S. EPA regulate; CO, NO_2, SO_2, O_3, PM_{10}, $PM_{2.5}$, and Pb. California Ambient Air Quality Standards are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, and vinyl chloride, and visibility-reducing particles.
California SIP	The 1990 amendments to the FCAA set new deadlines for attainment based on the severity of the pollution problem and launched a comprehensive planning process for attaining the NAAQS. The promulgation of the national 8-hour O_3 standard and the $PM_{2.5}$ standards in 1997 resulted in additional statewide air quality planning efforts. SIPs are not single documents, but rather a compilation of new and previously submitted plans, programs, district rules, state regulations, and federal controls. Many of California's SIPs rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes CARB the lead agency for all SIP-related purposes. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the *Federal Register*. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items included in the California SIP.
Local	
SCAQMD	SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and ensuring that new, modified, or relocated stationary sources do not create net emission increases.

Table 3.1-2. Applicable Laws, Regulations, and Plans for Air Quality

Laws, Regulation, or Plan	Description
SCAQMD AQMP	The FCAA requires areas not attaining the NAAQS to develop and implement an emission reduction strategy that would bring the area into attainment in a timely manner. The SCAQMD 2016 AQMP is the SCAQMD plan for improving regional air quality. It addresses FCAA requirements and demonstrates attainment with state and federal ambient air quality standards. The AQMP is prepared by SCAQMD in collaboration with the Southern California Association of Governments and the CARB. The AQMP provides policies and control measures that reduce emissions to attain both state and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the SCAB must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations. The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. It incorporates the latest scientific and technological information and planning assumptions, including the Southern California Association of Governments' 2016 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories.

Notes:

AQMP=Air Quality Management Plan; CARB=California Air Resources Board; CCAA=California Clean Air Act; CO=carbon monoxide; FCAA=Federal Clean Air Act; NAAQS=U.S. National Ambient Air Quality Standards; NO_2=nitrogen dioxide; O_3=ozone; Pb=lead; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; SCAB=South Coast Air Basin; SCAQMD=South Coast Air Quality Management District; SIP=State Implementation Plan; SO_2=sulfur dioxide; U.S. EPA=United States Environmental Protection Agency

Table 3.1-3. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
O_3[2]	1 hour 8 hours	0.09 ppm 0.070 ppm	— 0.070 ppm[4] (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude O_3 is almost entirely formed from ROG or VOC and NO_X in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: Extreme Nonattainment (8-hour) State: Nonattainment (1-hour and 8-hour)
CO	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm[1] 6 ppm	35 ppm 9 ppm —	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical O_3.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment/ Maintenance State: Attainment
Respirable Particulate Matter (PM_{10})[2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 — 2 (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Attainment/ Maintenance State: Nonattainment

Table 3.1-3. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
Fine Particulate Matter ($PM_{2.5}$)[2]	24 hours	—	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO_X, SOx, ammonia, and ROG.	Federal: Nonattainment
	Annual	12 µg/m^3	12.0 µg/m^3			State: Nonattainment
	Secondary	—	15 µg/m^3			
	Standard (annual)		(98th percentile over3 years)			
NO_2	1 hour	0.18 ppm	100 ppb[6] (98th percentile over 3 years)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the NO_X group of O_3 precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment/ Maintenance
	Annual	0.030 ppm	0.053 ppm			State: Attainment
SO_2	1 hour	0.25 ppm	75 ppb[7] (99th percentile over 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/ Unclassified
	3 hours	—	0.5 ppm[9]			State: Attainment/ Unclassified
	24 hours	0.04 ppm	0.14 ppm			
	Annual Arithmetic Mean	---	0.03 ppm			

Table 3.1-3. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
Pb[3]	Monthly	1.5 µg/m^3	—	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Pb-based industrial processes like battery production and smelters. Pb paint, leaded gasoline. Aerially deposited Pb from gasoline may exist in soils along major roads.	Federal: Attainment (Los Angeles County region in nonattainment) State: Attainment
	Calendar Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3[(10)]			
Sulfate	24 hours	25 µg/m^3	—	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries, and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: — State: Attainment/ Unclassified
H_2S	1 hour	0.03 ppm	—	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: — State: Attainment/ Unclassified

Table 3.1-3. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
Visibility reducing particles	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 percent	—	Reduces visibility. Produces haze. NOTE: not related to the Regional Haze program under the FCAA, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See particulate matter above.	Federal: — State: Attainment/ Unclassified
Vinyl Chloride[3]	24 hours	0.01 ppm	—	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: — State: Attainment/ Unclassified

Source: CARB 2011, 2019

Notes:

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. Violation occurs at, or above, 9.05 ppm.

2 Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hour. $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012, and secondary standard set at 15 µg/m^3.

3 The CARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the CARB and the U.S. EPA have identified Pb and various organic compounds that are precursors to O_3 and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for substantial health effects due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

4 Prior to June 2005, the 1-hour NAAQS was 0.12 ppm. Emission budgets for 1-hour O_3 are still in use in some areas where 8-hour O_3 emission budgets have not been developed, such as the San Francisco Bay Area. On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

5 The 0.08 ppm 1997 O_3 standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (July 20, 2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with an emission budget, U.S. EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

Table 3.1-3. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status

[6] Final 1-hour NO_2 NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot-spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

[7] The U.S. EPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of September 2012.

[8] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the CCR.

[9] National standards (other than O_3, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[10] Lead NAAQS are not considered in Transportation Conformity analysis

$\mu g/m^3$=microgram per cubic meter; CARB=California Air Resources Board; CCR=California Code of Regulations; CO=carbon monoxide; FCAA=Federal Clean Air Act; H_2S=hydrogen sulfide; NAAQS=U.S. National Ambient Air Quality Standards; NO_2=nitrogen dioxide; NO_X=oxides of nitrogen; O_3=Ozone; Pb=lead; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; ppm=parts per million; ROG=reactive organic gases; SCAB=South Coast Air Basin; SIP=State Implementation Plan; SO_2=sulfur dioxide; SO_X=sulfur oxides; U.S. EPA=United States Environmental Protection Agency; VOC=volatile organic compounds

3.1.4 Analysis of Impacts

Methodology

Emissions of criteria air pollutants were estimated using existing conditions information, project construction details, and project operations information, as well as a combination of emission factors from the following sources:

- California Emissions Estimator Model (CalEEMod) (Version 2016.3.2) emission model for estimating exhaust emissions from off-road construction equipment and on-road motor vehicles
- CalEEMod (Version 2016.3.2) emission model for calculating the long-term mobile, energy, and area source emissions

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to air quality are considered significant if any of the following occur:

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

As discussed in the IS (Appendix A), criterion (d) would result in no impact, and therefore, is not included in the analysis below.

South Coast Air Quality Management District Guidelines

The *CEQA Air Quality Handboo*k (SCAQMD 1993) was used to determine whether potential air quality impacts of the project are significant. Table 3.1-4 lists the daily thresholds for construction and operational emissions that have been established by SCAQMD.

Table 3.1-4. South Coast Air Quality Management District Air Quality Thresholds of Significance

Pollutant	Construction (pounds/day)	Operation (pounds/day)
NO_X	100	55
VOCs	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550

Source: SCAQMD 1993

Notes:

CO=carbon monoxide; NO_X=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; SO_x=oxides of sulfur; VOC=volatile organic compounds

SCAQMD has developed localized significance threshold (LST) methodology and tables that show mass rate look-up by source receptor area that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (SCAQMD 2008). LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area. LSTs are derived based on the location of the activity (i.e., the source receptor area); the emission rates of NOx, CO, PM_{10}, and $PM_{2.5}$; the size of the project study area; and the distance to the nearest exposed individual.

For this project, the appropriate source receptor area for the LST is the South Coastal Los Angeles County area (Area 4). As described above, the only sensitive receptor within 0.25 mile of the project site is the church located to the east at a distance of approximately 150 feet and the landscape is dominated by commercial and industrial land uses. Although the proposed project site is 7.8 acres, the three buildings do not cover the entire 7.8 acres, which means less than 5 acres would be under development at any one time. Therefore, the 5-acre LST rates are used for this project. Table 3.1-5 lists the LST emission rates for a 5-acre site located within 50 meters (per SCAQMD 2008; 164 feet) of a sensitive use.

Table 3.1-5. South Coast Air Quality Management District Localized Significance Thresholds

Pollutant	Construction (pounds/day)	Operation (pounds/day)
NOx	165	165
CO	1,982	1,982
PM_{10}	42	10
$PM_{2.5}$	10	3

Source: SCAQMD 1993

Notes:

CO=carbon monoxide; NO_X=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller

Impact Analysis

Threshold (a) Conflict with or obstruct implementation of the applicable air quality plan.

Construction

Construction activities associated with implementation of the project have the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, material delivery trips, and heavy-duty haul truck trips generated from construction activities. In addition, earthwork activities would result in fugitive dust emissions and paving operations and would also release ROGs from off-gassing. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources and provides a conservative estimate of construction air quality impacts. Table 3.1-6 shows the anticipated emissions related to construction phases.

Table 3.1-6. Construction Emissions

Phase	CO	ROGs	NOx	PM_{10}	$PM_{2.5}$
Site preparation	~~22.9~~21.9	4.~~4~~0	40~~5.7~~5	10.~~7~~4	6.~~8~~4
Grading	~~14.6~~15.6	~~2.7~~2.8	~~31.6~~39.5	~~4.3~~5.0	~~2.7~~2.9
Building construction	25.0~~7.2~~	3.1~~7~~	27.4~~33.2~~	3.1~~5~~	1.6~~2.0~~
Paving	15.1~~3~~	1.~~5~~7	11.1~~4.1~~	0.8~~1.0~~	0.6~~7~~
Architectural coating	4.7~~9~~	18.7	3.2~~5~~	0.5	0.3
Peak day (pound/day)	**~~30.8~~29.7**	**~~22.1~~21.7**	**~~45.6~~40.5**	**10.~~7~~4**	**6.~~7~~4**
SCAQMD thresholds	**550**	**75**	**100**	**150**	**55**
Exceedance	**No**	**No**	**No**	**No**	**No**

Notes:
CO=carbon monoxide; NO_X=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; ROG=volatile organic gases; SCAQMD=South Coast Air Quality Management District

Table 3.1-7 shows the construction-related emissions of CO, NOx, PM_{10}, and $PM_{2.5}$ compared with the LSTs for the South Coastal Los Angeles County area at a distance of 50 meters (per SCAQMD 2008; 164 feet) using a 5-acre LST metric. As required by the SCAQMD's *LST Methodology* (2008), only the on-site construction emissions are included in Table 3.1-7.

Table 3.1-7. Summary of On-Site Construction Emissions, Localized Significance

Project Phase	Emission Rates (pounds/day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Site preparation	21.2~~22.1~~	40.5~~45.6~~	10.2~~10.5~~	6.3~~6.7~~
Grading	12.8~~14.2~~	27.6~~31.6~~	4.1~~4.2~~	2.6~~2.7~~
Building construction	18.3~~19.2~~	21.7~~26.3~~	1.1~~1.5~~	1.1~~1.4~~
Paving	14.6~~14.7~~	11.1~~14.1~~	0.6~~0.8~~	0.5~~0.7~~
Architectural coating	3.6~~7~~	3.1~~4~~	0.2	0.2
Peak day (pound/day)	**22.9**	**45.6**	**10.5**	**6.7**
SCAQMD thresholds	**1,982**	**165**	**42**	**10**
Exceeds daily SCAQMD threshold?	**No**	**No**	**No**	**No**

Table 3.1-7. Summary of On-Site Construction Emissions, Localized Significance

Project Phase	Emission Rates (pounds/day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$

Notes:
CO=carbon monoxide; NO_X=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; SCAQMD=South Coast Air Quality Management District

The calculated emissions rates for the proposed on-site construction activities would not exceed the SCAQMD's LSTs.

Operation

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed project would have potential long-term operational air quality impacts from mobile source emissions associated with project-related vehicular trips and stationary source emissions from on-site energy consumption. Table 3.1-8 shows anticipated daily operational emissions.

Table 3.1-8. Daily Operational Emissions

Source	CO	NOx	ROG	SO_x	PM_{10}	$PM_{2.5}$
Area	0.02	0.0	3.7	0.0	0.0	0.0
Energy	0.7	0.8	0.1	0.0	0.1	0.1
Mobile	~~18.2~~16.8	~~14.7~~13.6	1.~~2~~1	0.1	6.1	1.7
Total	~~18.9~~17.5	1~~5.5~~4.4	~~5.0~~4.9	0.1	6.2	1.8
SCAQMD thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Exceeds daily SCAQMD threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
Columns may not add up due to rounding.
CO=carbon monoxide; NO_X=oxides of nitrogen; PM_{10}=particles of 10 micrometers and smaller; $PM_{2.5}$=particles of 2.5 micrometers and smaller; ROG=Volatile Organic Gases; SCAQMD=South Coast Air Quality Management District; SO_X=oxides of sulfur

Table 3.1-9 identifies the operational emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ compared with the LSTs for the South Coastal Los Angeles area at a distance of 50 meters (per SCAQMD 2008; 164 feet). As required by the SCAQMD's LST Methodology, only the on-site emissions are included in Table 3.1-9, which includes all of the area source and energy emissions, and 5 percent of the on-road emissions. As shown, the calculated emissions rates for the proposed on-site operational activities would not exceed the LSTs.

Table 3.1-9. Summary of On-Site Operation Emissions, Localized Significance

Project Phase	Emission Rates (pounds/day)			
	CO	NO_x	PM_{10}	$PM_{2.5}$
Area	0.02	0.0	0.0	0.0
Energy	0.7	0.8	0.1	0.1
Mobile	0.8~~9~~	0.7	0.3	0.1
Total (pounds/day)	**1.5~~6~~**	**1.5**	**0.4**	**0.2**
SCAQMD thresholds	**1,982**	**165**	**10**	**3**
Exceeds daily SCAQMD threshold?	**No**	**No**	**No**	**No**

Notes:
CO=carbon monoxide; NO_X=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; SCAQMD=South Coast Air Quality Management District

Given the extremely low level of CO concentrations in the project area, project-related vehicular trips are not anticipated to result in the CO concentrations exceeding the state or federal CO standards. Because no CO hot spot would occur, there would be no project-related impacts on CO concentrations.

Conclusion

An Air Quality Management Plan (AQMP) describes air pollution control strategies to be taken by a city/county or region classified as a nonattainment area. The main purpose of an AQMP is to bring the area into compliance with the requirements of federal and state air quality standards. CEQA requires that certain proposed projects be analyzed for consistency with AQMP. For a project to be consistent with the 2016 AQMP, the pollutants emitted from the project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality (SCAQMD 2016). However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, the project is deemed consistent with AQMP. The project's short-term construction and long-term operational emissions would not exceed the SCAQMD's significance thresholds and implementation of the project will not conflict with the 2016 AQMP. Impacts would be less than significant.

Threshold (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.

Air pollutant emissions would occur over the short term from construction activities and would be generated by fugitive dust from site preparation and grading and emissions from equipment exhaust.

As described under threshold (a) above and shown in Table 3.1-6 and Table 3.1-7, the short-term air emissions associated with construction activities would be below the SCAQMD's threshold of significance; however, fugitive dust emissions generated during construction may cause significant

impacts if not properly managed, especially on sensitive receptors near the project site. This potential impact would be considered significant. Long-term regional emissions are associated with project-related vehicular trips and stationary source emissions; however, as described in threshold (a) above and shown in Table 3.1-8 and Table 3.1-9, these emissions would not exceed the SCAQMD daily thresholds. Implementation of **Mitigation Measure AQ-1** would reduce potential short-term construction related significant impacts to a level less than significant.

Additionally, while the calculated short-term air quality emissions are below the SCAQMD's thresholds of significance, the following measures shall be implemented as best management practices (BMP):

- Ensure that all construction equipment is properly tuned and maintained
- Minimize idling time to 5 minutes, which saves fuel and reduces emissions
- Minimize unnecessary vehicular and machinery activities

Threshold (c) Expose sensitive receptors to substantial pollutant concentrations.

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics, particulate matter, and CO are of particular concern. The closest sensitive receptors to the project are homes located 1,200 feet to the north across I-405. The Calvary Chapel – Signal Hill Church is located approximately 150 feet east of the project site across Orange Avenue and is surrounded by commercial and industrial land uses. As discussed under threshold (a) above, project emissions related to temporary construction and project operations would not exceed SCAQMD thresholds; therefore, sensitive receptors would not experience significant pollutant concentrations as a result of the project. This is considered a less than significant impact.

Cumulative Impacts

The proposed project area is currently in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. As shown in Table 3.1-6 and Table 3.1-7, the proposed project's construction emissions would not exceed the SCAQMD's significance thresholds. Appendix D to SCAQMD's white paper on cumulative impacts states projects that do not exceed the project-specific thresholds are likewise generally not considered to be cumulatively significant (SCAQMD 2003). Based on SCAQMD's regulatory jurisdiction over regional air quality, it is reasonable to rely on its guidance to determine whether there is a cumulative air quality impact. Therefore, construction of the proposed project would not contribute to significant cumulative air quality impacts.

As shown in Table 3.1-8 and Table 3.1-9, the proposed project's operational emissions would not exceed the SCAQMD's long-term emission thresholds and, as a result, there would be no cumulative operational air quality impacts. Therefore, the project would not contribute to a long-term cumulative air quality impact.

Mitigation Measures

AQ-1 **Fugitive Dust Control.** During clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403. All material excavated or graded shall be sufficiently watered in sufficient quantities to prevent the generation of visible dust plumes. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on-site or off-site shall be securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust. These control techniques shall be indicated in project specifications.

In addition, where feasible, the following measures will be implemented to reduce fugitive dust emissions:

- Minimize land disturbance
- Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes
- Cover trucks when hauling dirt
- Stabilize the surface of dirt piles if not removed immediately
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities
- Provide an operational water truck on-site at all times and use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas

Level of Significance after Mitigation

Implementation of **Mitigation Measure AQ-1** would reduce short-term construction related potential significant impacts to a level less than significant by requiring fugitive dust control measures.

Additional Measures

The California Air Resources Board (CARB) staff recommends developers and government planners use all existing and emerging zero to near-zero emission technologies during construction and operation to minimize public exposure to air pollution. The following measures are specific to warehouse and distribution center projects. The project applicant has committed to implementing these measures during construction and operation of the project.

Construction Measures

- Ensure the cleanest possible construction practices and equipment are used. This includes eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g., electrical hookups) to support zero and near-zero equipment and tools.
- Implement, and plan accordingly for, the necessary infrastructure to support the zero and near-zero emission technology vehicles and equipment that will be operating on site. Necessary infrastructure may include the physical (e.g., needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles and equipment, and medium-heavy and heavy-heavy duty trucks.
- In construction contracts, include language that requires all off-road diesel-powered equipment used during construction to be equipped with Tier 4 or cleaner engines, except for specialized construction equipment in which Tier 4 engines are not available. In place of Tier 4 engines, off-road equipment can incorporate retrofits such that emission reductions achieved equal or exceed that of a Tier 4 engine.
- In construction contracts, include language that requires all off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used during project construction be battery powered.
- In construction contracts, include language that requires all heavy-duty trucks entering the construction site, during the grading and building construction phases be model year 2014 or later. All heavy-duty haul trucks should also meet CARB's lowest optional low-NOx standard starting in the year 2022[1]
- In construction contracts, include language that requires all construction equipment and fleets to be in compliance with all current air quality regulations. CARB staff is available to assist in implementing this recommendation.

Operation Measures

- Include contractual language in tenant lease agreements that requires tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site.
- Include contractual language in tenant lease agreements that requires future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
- Include contractual language in tenant lease agreements that requires all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission.

[1] In 2013, CARB adopted optional low-NO_x emission standards for on-road heavy-duty engines. CARB staff encourages engine manufacturers to introduce new technologies to reduce NO_x emissions below the current mandatory on-road heavy-duty diesel engine emission standards for model years 2010 and later. CARB's optional low-NO_x emission standard is available at: https://ww2.arb.ca.gov/our-work/programs/optional-reduced-nox-standards

- Include contractual language in tenant lease agreements that requires all heavy-duty trucks entering or on the project site to be model year 2014 or later today, expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2030.
- Include contractual language in tenant lease agreements that requires the tenant be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation[2], Periodic Smoke Inspection Program[3], and the Statewide Truck and Bus Regulation[4].
- Include contractual language in tenant lease agreements restricting trucks and support equipment from idling longer than 5 minutes while on site.
- Include contractual language and permit conditions that prohibit cold storage operations unless a health risk assessment is conducted and the health impacts fully mitigated.
- Include rooftop solar panels for each proposed warehouse to the extent feasible, with a capacity that matches the maximum allowed for distributed solar connections to the grid.

[2] In December 2008, CARB adopted a regulation to reduce greenhouse gas emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation is available at: https://ww2.arb.ca.gov/our-work/programs/ttghg

[3] The Periodic Smoke Inspection Program requires that diesel and bus fleet owners conduct annual smoke opacity inspections of their vehicles and repair those with excessive smoke emissions to ensure compliance. CARB's Periodic Smoke Inspection Program is available at: https://ww2.arb.ca.gov/our-work/programs/heavy-duty-diesel-inspection-periodic-smoke-inspection-program

[4] The regulation requires newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. CARB's Statewide Truck and Bus Regulation is available at: https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation

3.2 Geology and Soils

3.2.1 Overview

This section describes the existing geology and soil conditions and applicable laws and regulations associated with geology and soils, as well as an analysis of the potential effects resulting from implementation of the proposed project. Information contained in this section is summarized from the Albus-Keefe & Associates, Inc. *Preliminary Geotechnical Investigation* (May 9, 2019) (Appendix C).

3.2.2 Environmental Setting

Regional Geologic Setting

The project site is located in the Peninsular Ranges Geomorphic Province, near the western edge of the Los Angeles Coastal Plain and at the far northwestern extension of the Signal Hill uplift. Signal Hill is a surface expression of the northwesterly Newport-Inglewood structural fault zone. Signal Hill and the project vicinity are generally underlain by thousands of feet of sediments that rest above metamorphic basement rock. The current surface expression of the area is Holocene- and Pleistocene-age sediments. These sediments are typically comprised of artificial fill materials, colluvium, and alluvium.

Geologic Units and Local Setting

Artificial Fill

Artificial fill materials are present throughout most of the project site, with the most extensive concentration in the lower westerly margin of the project site within the former drainage course. The upper easterly portion of the project site generally consists of fine-grained silty sands and sands that are brown and olive gray in color, dry to moist, and loose. The fill ranges in thickness from nil to 14 feet. The lower westerly portion of the project site generally consists of mixtures of sands, silts, and clays, in various shades of brown and gray, dry to moist, and loose to very dense or soft to very stiff. The fill in this location is up to as much as 25 to 30 feet in thickness.

Additionally, construction debris was located throughout the project site, with the majority of debris found at 12 inches or less below ground surface. In the southwesterly portion of the project site, concrete and asphalt debris up to 3 feet in size were encountered along the base of the fill.

Residual Soil

Residual soil materials (or top soil) were observed on the bedrock material in locations where remnants of the original natural ground surface have been preserved. The residual soil materials generally consist of fine-grained silty sands that are brown in color, damp, loose to medium dense, and porous containing fine roots. This unit varies from 1 to 2 feet thick.

Alluvium

Alluvium deposits are associated with the former drainage located in the lower westerly area of the project site. The material generally consists of thinly-interfingered layers and lenses of olive gray to black, fine-grained sands, silty sands, clayey sands, sandy silts, sandy clays, organic silts, lean clays,

and fat clays. The material was damp to wet, medium dense to dense, or soft to very stiff. Alluvium materials are up to 30 inches in thickness.

Bedrock – San Pedro Formation

The San Pedro Formation is a near-shore marine deposit that underlies the entire project site. This formation consists of gray to pale yellow, slightly micaceous, silty sandstone to sandstone that is dry to damp, slightly friable, and moderately hard.

Geologic Hazards

Faulting and Seismicity

The California Geological Survey (CGS) defines an active fault as a fault showing evidence for activity within the last 11,000 years. The project site is not located within a State of California Earthquake Fault Zone (EFZ; formerly known as an Alquist-Priolo Special Studies Zone), and there are no known active, potentially active, or inactive faults located at the project site. The nearest known fault is the Cherry Hill fault segment of the Newport-Inglewood fault zone (south Los Angeles Basin section-southern), which is located approximately 900 feet southwest of the project site.

Liquefaction, Lateral Spreading, and Seismically Induced Settlement

Liquefaction can occur when a site is located in a zone with seismic activity, on-site soils are cohesionless, groundwater is encountered within 50 feet of the surface, and soil relative densities are less than about 70 percent. The western half of the project site is located in a liquefaction zone that requires investigation. Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as those produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops, as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases, and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Expansive Soil

Expansive soils are generally plastic clays that can undergo a substantial increase in volume, with an increase in moisture content, and a substantial decrease in volume, with a decrease in moisture content. Expansive soils can cause uplift pressures that can lead to structural damage. Soils in the project site have reported values of Expansion Index up to 32.

3.2.3 Regulatory Framework

Table 3.2-1 identifies and summarizes laws, regulations, and plans relative to geology and soils.

Table 3.2-1. Applicable Laws, Regulations, and Plans for Geology and Soils

Laws, Regulation, or Plan	Description
Federal	
Earthquake Hazards Reduction Act	In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the U.S. through the establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program, which was further refined by the National Earthquake Hazards Reduction Program Act.
Uniform Building Code	The Uniform Building Code is published by the International Conference of Building Officials and forms the basis for CBC, as well as approximately half of the state building codes in the U.S. It has been adopted by the California Legislature to address the specific building conditions and structural requirements for California, as well as provide guidance on foundation design and structural engineering for different soil types.
State	
Alquist-Priolo EFZ Act	The Alquist-Priolo EFZ Act (California PRC Sections 2621–2630) was passed into law following the destructive February 9, 1971, San Fernando earthquake, which was associated with extensive surface fault ruptures that damaged numerous structures. The act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep.
CBC	California provides minimum standards for building design through the CBC (Title 24). The 2016 California codes became effective January 1, 2017. With the shift from seismic zones to seismic design, the CBC philosophy has shifted from "life safety design" to "collapse prevention," meaning that structures are designed for prevention of collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site.
PRC	The PRC includes regulations for paleontological resources as described below: • PRC Section 5097.5: Provides for the protection of paleontological resources and prohibits the removal, destruction, injury, or defacement of paleontological features on any lands under the jurisdiction of state or local authorities • PRC Section 30244: Requires reasonable mitigation for impacts on paleontological resources that occur as a result of development
Seismic Hazard Mapping Act	The California Department of Conservation provides guidance to the Seismic Hazards Mapping Act, which aims to reduce the threat of seismic hazard to public health and safety by identifying and mitigating seismic hazards. State, county, and city agencies are directed to utilize such maps in land use and permitting processes. The act also requires geotechnical investigations particular to the site be conducted before permitting occurs on sites within seismic hazard zones.

Table 3.2-1. Applicable Laws, Regulations, and Plans for Geology and Soils

Laws, Regulation, or Plan	Description
State Water Resources Control Board Construction Storm Water Program	Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by the U.S. EPA to perform permitting, administrative, and enforcement aspects of the program. Construction activities that disturb 1 acre or more of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ (as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). Construction activities subject to compliance include clearing, grading, and excavating. Applicants of regulated construction activities are required to file Notice of Intent and Permit registration Documents with the State Water Resources Control Board. Applicants must prepare a Storm Water Pollution Prevention Plan and demonstrate conformance with applicable construction BMPs.
Local	
LBMC	Chapter 18.04 Permits outlines the various permit requirements within the City of Long Beach. Section 18.04.010 describes the permits required to be obtained from the city prior to construction, including building permits, grading permits, electrical permits, plumbing permits, and mechanical permits. Chapter 18.40 Building Code outlines the City Council adopted building codes and describes the reinforcement of the CBC within the city and any exceptions to the CBC. Chapter 18.68 Earthquake Hazard Regulations defines a systematic procedure for identifying and assessing earthquake generated hazards associated with certain existing structures within the city and to develop a flexible, yet uniform and practical procedure for correcting or reducing those hazards to tolerable hazard levels. This chapter also identifies the minimum standards for structural seismic resistance established primarily to reduce the risk of life loss or injury.
Long Beach General Plan	Seismic Safety Element includes advance planning recommendations for land use including giving priority to low risk type projects such as low rise buildings and open space in areas of known seismic hazards. Additionally, the Seismic Safety Element also includes immediate action recommendations for structure and design, including discouragement of new unfavorable site/structure combinations and no structures for human occupancy within the Alquist-Priolo Special Studies Zones. The Conservation Element includes soils management goals including minimizing activities which will have a critical or detrimental effect on geologically unstable areas and soils subject to erosion.

Notes:

BMP=best management practices; CBC=California Building Code; EFZ=Earthquake Fault Zone; LBMC=Long Beach Municipal Code; NPDES=National Pollutant Discharge Elimination System; PRC=Public Resources Code; U.S. EPA=United States Environmental Protection Agency

3.2.4 Analysis of Impacts

Methodology

Potential direct and indirect project impacts were identified based on a review of the *Preliminary Geotechnical Investigation* prepared by Albus-Keefe & Associates, Inc., which is included in this EIR as Appendix C. The report included desk-top analysis of the geological conditions, as well as site reconnaissance and field excavations.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to geology and soils are considered significant if any of the following occur:

a) Directly or indirectly cause to potential substantive 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.

   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 the latest Uniform Building Code, creating substantial direct or indirect risks to life or property

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

As discussed in the IS (Appendix A), criteria (a.i.), (a.iv.), (b), (e), and (f) would result in no impact or a less than significant impact and therefore are not included in the analysis below.

Impact Analysis

Threshold (a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: (ii.) strong seismic ground shaking or (iii.) seismic-related ground failure, including liquefaction.

There are no known active or potentially active faults that have been mapped at the site, and the site is not located within a State of California EFZ. However, an EFZ is located about 600 feet southwest of the project site (California Department of Conservation 2016a). The project site does have the potential to be exposed to strong seismic shaking. Impacts are potentially significant.

Project facilities would need to be designed consistent with the city's existing construction ordinances and the California Building Code (CBC) in order to minimize hazards during a seismic event. The CBC includes standards related to soils and foundations, structure design, building materials, and structural testing and inspections.

Implementation of **Mitigation Measure GEO-1** requires compliance with the recommendations in the *Preliminary Geotechnical Report* and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans. In addition, the project would be required to be constructed in compliance with the LBMC and CBC. With implementation of **Mitigation Measure GEO-1** and mandatory compliance with the LBMC and CBC, impacts would be less than significant.

The project site is partially within an area mapped by CGS as liquefiable. Geotechnical calculations indicate that some soils below the site are susceptible to liquefaction during a strong ground motion event. Impacts are potentially significant.

The effects of liquefaction can be properly mitigated with appropriate design. Based on the State of California Special Publication 117A, hazards from liquefaction should be mitigated to the extent required to reduce seismic risk to "acceptable levels." The acceptable level of risk means, the "level that provides reasonable protection of the public safety" (CCR Title 14, Section 3721 (a)). Protection of public safety does not require that structures be resistant to cracking or general distress due to differential movements. As such, a greater allowance for differential movement during liquefaction events is acceptable compared with the design requirements for static conditions. The use of well reinforced foundations, such as post-tensioned slabs, spread footings tied together with grade beams, or mat foundations, have been proven to adequately provide basal support during liquefaction events comparable to the predicted site event. A predicted site event assumes a magnitude of 6.8 and a distance of 4.6 miles from the seismic source. Implementation of **Mitigation Measure GEO-1**, which requires compliance with the recommendations in the *Preliminary Geotechnical Report* and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans, would reduce potential significant impacts to a level less than significant.

Threshold (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.

As discussed in the IS, Table VII. Geology and Soils, Environmental Issue Area (a.iv.) (Appendix A), the project site is not within a landslide zone. As discussed under Threshold (a) above, the project site is partially within an area mapped by CGS as liquefiable. Liquefaction can produce excessive settlement, ground rupture, lateral spreading, failure of shallow bearing foundations, or some ground

subsidence. Based on the analysis in the *Preliminary Geotechnical Report*, the existing artificial fill materials and the residual soil materials in this area are generally loose and porous, which means these materials would likely be prone to collapse upon wetting and settlement when subjected to the weight of additional fills and foundation loads. This anticipated settlement would likely be in excess of the tolerable limits of the proposed structure. Impacts are potentially significant.

The effects of unstable soil can be properly mitigated with appropriate design. Removal and recompaction of the artificial fill materials and the residual soil materials in this area would mitigate these effects. The depth to which removal of existing artificial fills would be needed should be determined by a geotechnical consultant during site grading based on potholing and moisture density testing, as described in the *Preliminary Geotechnical Report*. Implementation of **Mitigation Measure GEO-1**, which requires compliance with the recommendations in the *Preliminary Geotechnical Report*, and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans, would reduce potential significant impacts to a level less than significant.

Threshold (d) Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property.

The Preliminary Geotechnical Report describes the on-site soils as low to medium expansion potential with reported values on the Expansion Index of up to 32. Changes in volumetric soil changes can cause excessive movement in foundations, pavement, and flatwork. Impacts are potentially significant. The *Preliminary Geotechnical Report* provides testing and remediation recommendations that would mitigate the effects of potentially expansive soils. Supplemental testing for soil expansion would be required subsequent to rough grading and prior to construction of foundations and other concrete work to develop final recommendations for mitigation of expansive soils.

Implementation of **Mitigation Measure GEO-1** requires compliance with the recommendations in the *Preliminary Geotechnical Report* and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans and would reduce potential significant impacts to a less than significant level.

Cumulative Impacts

Geologic and soil conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts with regards to geologic resources would be considered significant if the proposed project would be impacted by geologic hazards(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable. However, there are no unique geological characteristics on the project site that would pose this type of hazard. Geologic and soil conditions on the project site would result in a significant geology/soils impact that can be mitigated to less than significant. The proposed project's incremental effects are not cumulatively considerable. Geologic conditions in the Southern California region would essentially be the same regardless of the amount of development, and the cumulative geologic impact is considered less than significant. No significant cumulative impact on geology/soils would occur.

Mitigation Measures

GEO-1 **Incorporation of and Compliance with the Recommendations in the Preliminary and Final Geotechnical Report.** The project shall be constructed in conformance with the recommendations included in the *Preliminary Geotechnical Investigation* prepared by Albus-Keefe & Associates, Inc. (Appendix C) and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans. The City of Long Beach shall confirm compliance with all recommendations in the *Preliminary Geotechnical Report* and Final Geotechnical Report prior to issuance of building permits. Recommendations include, but are not limited to, the following:

CBC Compliance:

- Design and construction shall be done in accordance with current CBC requirements in order to address any issues related to potential ground shaking at the site.

Recommendations for a well-reinforced foundation system:

- Additional testing of site soils shall be performed after site grading to confirm the expansion potential.
- Foundations shall be designed for total differential static settlement up to 1 inch and 0.5 inch over 30 feet.
- An allowable bearing value shall be used.
- Lateral bearing for footings shall be determined.
- Exterior continuous building footings shall be founded at a minimum depth of 18 inches.
- Foundation excavations shall be observed by the project geotechnical consultant prior to placement of forms or reinforcement.

Recommendations to limit soil expansion:

- Earthwork and grading shall be performed in accordance with applicable requirements of California Occupational Safety and Health Administration and the Grading Codes of the City of Long Beach.
- All existing artificial fills shall be removed to a maximum depth of 10 feet below existing ground surface.
- Materials excavated from the site may be used as fill, provided they are free of deleterious materials and particles greater than 6 inches in maximum dimension.
- Asphalt and concrete materials greater than 6 inches shall be reduced in maximum dimension and incorporate within the fill materials, provided they are mixed with granular materials and spread throughout the fill to eliminate nesting.
- Construction of surcharge fills placed 15 feet above the proposed finish grades in selected areas is recommended.

- Edges of surcharge fills may be sloped 1.5:1 where space permits. Where insufficient room is present for slopes, a wire basket and geofabric system would be required.
- Surcharge fills shall remain in place until the remaining settlement due to future final grades.
- Surcharge fills shall be monitored by instruments prior to and after placement of fills above the current grades.

Level of Significance after Mitigation

Implementation of **Mitigation Measure GEO-1** would reduce potential significant impacts to a level less than significant by requiring the incorporation of and compliance with the recommendations in the Preliminary Geotechnical Report and the Final Geotechnical Report that will be prepared in conjunction with final detailed project plans, including consistency with the LBMC and CBC.

This page is intentionally blank.

3.3 Greenhouse Gas Emissions

3.3.1 Overview

This section describes the existing air quality conditions and applicable laws and regulations associated with air quality, as well as an analysis of the potential effects resulting from implementation of the proposed project. Information contained in this section is summarized from the *Air Quality and Greenhouse Gas Technical Memorandum* (Appendix B).

3.3.2 Environmental Setting

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: “Greenhouse Gas Mitigation” and “Adaptation.” "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. “Adaptation" refers to the effort of planning for, and adapting to, impacts resulting from climate change, such as adjusting transportation design standards to withstand more intense storms and higher sea levels.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies; 2) reducing travel activity; 3) transitioning to lower GHG-emitting fuels; and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.

GHGs 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 to absorb infrared radiation and 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). Table 3.3-1 shows the GWPs for each type of GHG. For example, SF_6 is 23,900 times more potent at contributing to global warming than CO_2.

Table 3.3-1. Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	GWP (100-year Time Horizon)
CO_2	50–200	1
CH_4	12	21
N_2O	114	310
HFC-23	270	11,700
HFC-134a	14	1,300
HFC-152a	1.4	140
PFC: CF_4	50,000	6,500
PFC: C_2F_6	10,000	9,200
SF_6	3,200	23,900

Source: Intergovernmental Panel on Climate Change 2007

Notes:
C_2F_6=hexafluoromethane; CF_4=tetrafluoromethane; CH_4=methane; CO_2=Carbon Dioxide; HFC-23=fluoroform; HFC-134a=1,1,1,2-tetrafluoroethane; HFC-152a=difluoroethane; GWP=global warming potential; N_2O=nitrous oxide; PFC=perfluorocarbons ; SF_6=sulfur hexafluoride

3.3.3 Regulatory Framework

Table 3.3-2 identifies and summarizes laws, regulations, and plans relative to GHG emissions.

Table 3.3-2. Applicable Laws, Regulations, and Plans for Greenhouse Gas Emissions

Laws, Regulation, or Plan	Description
State	
EO S-3-05 – Statewide GHG Emissions Target	EO S-3-05 was issued to reduce California's GHG emissions to: (1) 2000 levels by 2010; (2) 1990 levels by the 2020; and (3) 80 percent below the 1990 levels by 2050. EOs are binding only on state agencies. Accordingly, EO S-03-05 will guide state agencies' efforts to control and regulate GHG emissions but will have no direct binding effect on local government or private actions.
EO B-55-18	EO S-3-05 was expanded upon by EO B-55-18, which was issued by the Governor in 2018. EO B-55-18 creates a goal of statewide carbon neutrality by 2045 and to achieve and maintain net negative emissions thereafter. Future scoping plans would be required to identify measures to achieve the carbon neutrality goal.
AB 32 – California Global Warming Solutions Act	In 2006, AB 32, the Global Warming Solutions Act of 2006, was adopted and set the 2020 GHG emissions reduction goal into law. CARB is tasked with the responsibility of monitoring and reducing GHG emissions pursuant to the guidelines of AB 32.

Table 3.3-2. Applicable Laws, Regulations, and Plans for Greenhouse Gas Emissions

Laws, Regulation, or Plan	Description
EO B-30-15	On April 20, 2015, Governor Edmund G. Brown Jr. signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments, such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed its legislated target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32). California's new emission reduction target of 40 percent below 1990 levels by 2030 would make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2°C, the warming threshold at which there would likely be major climate disruptions, such as super droughts and rising sea levels.
SB 32	SB 32 was signed into law on September 8, 2016, and expands upon AB 32 to reduce GHG emissions. SB 32 sets into law the mandated GHG emissions target of 40 percent below 1990 levels by 2030 written into EO B-30-15.
AB 1493 – Light-duty Vehicle GHG Emissions Standards	AB 1493 (Pavley) requires CARB to develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal corporate average fuel economy rules for passenger vehicles. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars.
EO S-01-07	This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a low carbon fuel standard for transportation fuels be established for California and directs the CARB to determine whether a low carbon fuel standard can be adopted as a discrete early action measure pursuant to AB 32. The CARB approved the low carbon fuel standard as a discrete early action item with a regulation adopted and implemented in April 2010.
SB 97 – CEQA GHG Amendments	SB 97 acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address GHG emissions, consistent with the Legislature's directive in PRC Section 21083.05.
SB 743	SB 743, adopted by the California Natural Resources Agency in December 2018, changes the way that transportation impacts are analyzed under CEQA. With the amended CEQA Guidelines Section 15064.4, transportation impacts may be evaluated using VMT, VMT per capita, automobile trip generation rates, or automobile trips generated, as LOS and auto delay are no longer considered a significant impact under CEQA. Compliance with SB 743 is not mandatory until July 2020.

Table 3.3-2. Applicable Laws, Regulations, and Plans for Greenhouse Gas Emissions

Laws, Regulation, or Plan	Description
SB 375 – Sustainable Communities Act	SB 375, the Sustainable Communities Act, was passed by the State Assembly in August 2008 and signed by the Governor in September 2008. SB 375 is intended to encourage reductions in transportation-related emissions from cars and light trucks. Under SB 375, Metropolitan Planning Organizations are required to prepare and adopt a sustainable community strategy to reach emission reduction targets by linking housing needs and transportation planning with GHG reduction targets.
State of California Building Energy Efficiency Standards (Title 24, Part 6)	The California Energy Commission adopted new 2013 Building Energy Efficiency Standards effective July 1, 2014. The 2013 standards improve upon the 2008 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2008 standards were updated for a number of reasons, including: • To respond to AB 32, the Global Warming Solutions Act of 2006 • To pursue California energy policy that would establish energy efficiency as the resource of first choice for meeting California's energy needs • To act on the findings of California's Integrated Energy Policy Report that indicates standards in general (as opposed to incentives or other mechanisms) are the most cost- effective means to achieve energy efficiency • To meet California's commitment to include aggressive energy efficiency measures in updates of state building codes To meet California's commitment to improve the energy efficiency of nonresidential buildings through aggressive standards
SB 350	SB 350 was signed into law in September 2015. SB 350 establishes tiered increases to the renewable portfolio standard of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.
SB 100	SB 100, adopted in September 2018, requires the state's retail electricity to achieve a 60-percent renewable energy portfolio by 2030 (an increase from 50 percent set forth by SB 350), and 100-percent carbon-free by 2045
SLCP Reduction Strategy	This final proposed SLCP reduction strategy (SLCP Strategy) was developed pursuant to SB 605 and SB 1383 and lays out a range of options to accelerate SLCP emission reductions in California, including regulations, incentives, and other market-supporting activities. The SLCP Strategy will inform and be integrated into the upcoming 2017 Climate Change Scoping Plan update, which will incorporate input from a wide range of stakeholders to develop a comprehensive plan for achieving the SB 32 statewide 2030 GHG limit of 40 percent below 1990 levels. The process for updating the scoping plan began in fall 2015 and is scheduled for completion in 2017.
California Green Building Code	The California Green Building Standards Code (2016), referred to as CalGreen, took effect on January 1, 2017, and instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals.

Table 3.3-2. Applicable Laws, Regulations, and Plans for Greenhouse Gas Emissions

Laws, Regulation, or Plan	Description
Local	
City of Long Beach Climate Action and Adaptation Plan	Pursuant to California SB 379, all California cities and counties are required to include climate adaptation and resiliency strategies in their general plans to ensure safety and protection of their community in the future. Currently, the City of Long Beach is in a multi-year effort to develop a Climate Change Action and Adaptation Plan that will provide a framework for creating or updating policies, programs, practices, and incentives for Long Beach residents and businesses to reduce the city's GHG footprint, and ensure the community and physical assets are better protected from the impacts of climate change. The climate action/mitigation element of the Climate Change Action and Adaptation Plan will include the following steps: • A GHG inventory of emissions from various sectors in the Long Beach community, such as building energy, transportation, solid waste, and wastewater. • A forecast of projected emissions based on anticipated city growth. • Development of GHG reduction targets based on the latest climate science, and local, regional, State, and federal context and requirements. • Analysis of existing sustainability and climate mitigation efforts. • Development of additional GHG mitigation strategies to reduce future emissions from key sectors. • Development of a framework for implementing mitigation strategies. • A plan to monitor the performance of the mitigation strategies using performance metrics to track GHG reduction targets.
LBMC	Section 21.45.400 of the LBMC further regulates public and private development to include various standards that promote green buildings. A green building, also known as a sustainable building, is a structure that is designed, built, renovated, operated, or reused in an ecological and resource-efficient manner. Green buildings are designed to meet certain objectives such as protecting occupant health; improving employee productivity; using energy, water and other resources more efficiently; and reducing the overall impact on the environment. The City of Long Beach recognizes the benefit of green buildings and establishes a green building program.
City of Long Beach General Plan	The City of Long Beach's General Plan Mobility Element includes strategies to reduce single-occupancy vehicle trips and reduce VMT and associated GHG emissions. Policies in the General Plan Mobility Element include reducing VMT and vehicle trips through alternative modes of transportation and Transportation Demand Management; encouraging use of low- or no-emissions vehicles to reduce pollution; and supporting the development of a network of alternative fuel vehicle charging/fueling stations citywide.

Note: °C=degrees Celsius; AB=assembly bill; CARB=California Air Resources Board; CEQA=California Environmental Quality Act; EO=executive order; GHG=greenhouse gas; LBMC=Long Beach Municipal Code; LOS=level of service; PRC=Public Resources Code; SB=Senate Bill; SLCP=short-lived climate pollutant; VMT=vehicle miles traveled

3.3.4 Analysis of Impacts

Methodology

For the purposes of determining whether or not GHG emissions from affected projects are adverse, SCAQMD specifies that project emissions must include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. Based on this direction, construction emissions were amortized over the life of the project (defined as 30 years), added to the operational emissions, and compared with the applicable GHG significance thresholds.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to GHG emissions are considered significant if any of the following occur:

a) Generate GHG 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 GHGs

As discussed in the IS (Appendix A), criterion (b) would result in a less than significant impact, and therefore, is not included in the analysis below.

South Coast Air Quality Management District's Greenhouse Gas Emission Threshold

The SCAQMD's interim thresholds for commercial, residential, mixed use, and industrial development projects are as follows:

- Industrial projects – 10,000 metric tons (MT) of CO_2e per year
- Residential, commercial, and mixed use projects (including parks, warehouses, etc.) – 3,000 MT CO_2e per year

The proposed business park/warehouse complex includes the construction of three industrial/manufacturing buildings with accessory office uses. As discussed in Section 3.5, Transportation, the methodology for the transportation study analyzed the trip generation under land use code manufacturing. Thus, for purposes of this analysis, both direct and indirect GHG emissions from the proposed project are discussed in the context of the 10,000 MT threshold levels.

Impact Analysis

Threshold (a) Generate greenhouse gas emissions, either directly or indirectly, that may have an adverse effect on the environment.

Construction Emissions

Construction of the project would result in temporary emissions associated with diesel engine combustion from mass grading, and site preparation construction equipment would be assumed to occur for engines running at the correct fuel-to-air ratios (the ratio whereby complete combustion of the diesel fuel occurs). Construction-related GHG emissions include site preparation, excavation, and associated construction of the proposed business park/warehouse complex.

The most recent version of the CalEEMod model (Version 2016.3.2) was used to calculate the construction emissions. Table 3.3-3 quantifies the expected GHG emissions from construction activities. As shown, construction of the proposed project would generate ~~745~~ 770 MT of CO_2e. Amortized over a 30-year period, the approximate life of the project, the yearly contribution to GHG from the construction ~~of the build alternatives with an at-grade concourse~~ would be ~~24.9~~25.7 MT of CO_2e per year.

Table 3.3-3. Construction Greenhouse Gas Emissions

Year	Pollutant Emissions (MT/year)			
	CO_2	CH_4	N_2O	CO_2e
~~2019~~2021	~~334.1~~745.3	0.~~06~~11	0.0	~~335.6~~748.1
~~2020~~2022	~~410.5~~21.4	0.~~06~~01	0.0	~~412.1~~21.6
Total	**~~744.6~~766.7**	**0.12**	**0.0**	**~~747.7~~769.7**

Notes:
CH_4=methane; CO_2=carbon dioxide; CO_2e=carbon dioxide equivalent; N_2O=nitrous oxide; MT=metric tons

Operational Emissions

The operational GHG emission estimates were also calculated using CalEEMod. The following activities associated with the project could directly or indirectly contribute to the generation of GHG emissions:

- **Gas, Electricity, and Water Use** – Natural gas use results in the emissions of two GHGs: CH_4 (the major component of natural gas) and CO_2 from the combustion of natural gas. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. Annual electricity emissions were estimated using the reported GHG emissions per kilowatt-hour for Southern California Edison; the supplier would provide electricity for the project.
- **Solid Waste Disposal** – Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 21 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use** – Transportation associated with the project would result in GHG emissions from the combustion of fossil fuels in vehicle trips. The project would result in GHG emissions through the vehicular traffic generated.
- **Combined Emissions** – The GHG emission estimates presented in Table 3.3-4 show the emissions associated with the level of development at build-out. Appendix B, *Air Quality and Greenhouse Gas Technical Memorandum,* includes the annual CalEEMod calculations for GHG emissions. Table 3.3-4 shows that project operations would result in average annual emissions of ~~2,290~~ 2,263 MT~~s~~ of CO_2e per year.

The total annual GHG emissions of ~~2,290~~ 2,263 MT of CO_2e is less than SCAQMD's screening threshold of 10,000 MT of CO_2e per year and also less than SCAQMD's screening threshold for mixed-use projects of 3,000 MT of CO2e per year.

Table 3.3-4. Annual Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/year)					
	Bio-CO_2	NBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Construction Emissions Amortized over 30 Years	0.0	~~24.8~~25.6	~~24.8~~25.6	0.004	0.0	~~24.9~~25.7
Operational Emissions						
Area Sources	0.0	0.0	0.0	0.0	0.0	0.0
Energy Sources	0.0	743.4	743.4	0.03	0.0	746.4
Mobile Sources	0.0	1,~~212.4~~184.3	1,~~212.4~~184.3	0.04~~5~~	0.0	1,~~213.5~~185.4
Waste Sources	40.4	0.0	40.4	2.4	0.0	100.2
Water Usage	11.8	154.1	165.9	1.2	0.03	205.3
Total Operational Emissions	**52.2**	**2,081.9~~109.9~~**	**2,134.1~~162.2~~**	**3.7**	**0.04**	**2,~~265.4~~237.3**
Total Project Emissions	**52.2**	**2,~~134.7~~107.5**	**2,~~187.0~~159.7**	**3.7**	**0.04**	**2,~~290.3~~263.0**

Notes:
Columns may not add up due to rounding.
Bio-CO_2=biogenic carbon dioxide; CH_4=methane; CO_2=carbon dioxide; CO_2e=carbon dioxide equivalent; MT=metric tons; NBio-CO_2=non-biogenic carbon dioxide; N_2O=nitrous oxide

Conclusion

Construction activities would generate GHG emissions from equipment use and transportation of workers travelling to and from the project site. The amount of GHG emissions that would be generated is not anticipated to be substantial due to the temporary nature of construction. Operation of the project would result in annual emissions of ~~2,265.4~~2,237.3 MT of CO2e per year. Combined, construction and operational emissions would result in ~~2,290~~ 2,263.0 MT of CO_2e per year, which is below SCAQMD's screening threshold of 10,000 MT of CO_2e per year for industrial projects and SCAQMD's threshold of 3,000 MT CO2e per year for commercial and mixed-use projects. Therefore, the proposed project would have a less than significant individual impact for GHG emissions.

Cumulative Impacts

As shown in Table 3.3-4, the proposed project's GHG emissions would be less than the SCAQMD's interim threshold. Therefore, the project would not contribute to a long-term cumulative GHG emission impact.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

This page is intentionally blank.

3.4 Noise

3.4.1 Overview

This section describes the existing noise and vibration conditions and applicable laws and regulations associated with noise and vibration, as well as an analysis of the potential effects resulting from implementation of the proposed project. Information contained in this section is summarized from the *Noise and Vibration Technical Memorandum* (Appendix D).

3.4.2 Environmental Setting

Acoustic Terminology

Noise is generally defined as unwanted sound. To account for the large pressure response range of the human ear, noise levels are presented on a logarithmic scale expressed in units of decibels (dB). The human ear does not perceive every frequency with equal loudness; therefore, sounds are often adjusted with a weighting filter. The A-weighted filter is applied to compensate for the frequency response of the human auditory system, known as an A-weighted decibel (dBA). An inherent property of the logarithmic dB scale is that the sound pressure levels of two separate sources are not directly additive. For example, if a sound of 50 dBA is added to another sound of 50 dBA in the proximity, the result is a 3-dB increase (or 53 dBA), not an arithmetic doubling to 100 dBA. Additional noise metrics are defined below.

- **L_{eq}**: The energy averaged, A-weighted sound level over a specified time period, also conventionally expressed as dBA.
- **L_{max}**: The maximum A-weighted sound level as determined during a specified measurement period.
- **L_{dn}**: The L_{dn} is the average hourly A-weighted L_{eq} for a 24-hour period with a 10-dB penalty added to sound levels occurring during the evening hours (7:00 p.m. to 10:00 p.m.) to account for individuals' increased sensitivity to noise levels during nighttime hours.
- **Community noise equivalent level (CNEL)**: CNEL is another average A-weighted L_{eq} sound level measured over a 24-hour period, adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours; adding 5 dB to sound levels occurring during evening hours (7:00 p.m. to 10:00 p.m.) and 10 dB to noise levels occurring during nighttime hours (10:00 p.m. to 7:00 a.m.).

The human ear perceives changes in sound pressure levels relative to changes in "loudness." Scientific research demonstrates the following general relationships between sound level and human perception for two sound levels with the same, or very similar, frequency characteristics:

- 1 dBA is the practical limit of accuracy for sound measurement systems and corresponds to an approximate 10-percent variation in the sound pressure level. A 1-dBA increase or decrease is a non-perceptible change in sound.
- A 3-dBA increase or decrease is a doubling (or halving) of acoustic pressure level, and it corresponds to the threshold of change in loudness perceptible in a laboratory environment. In practice, the average person is not able to distinguish a 3-dBA difference in environmental sound outdoors.

- A 5-dBA increase or decrease is described as a perceptible change in sound level and is a discernible change in an outdoor environment.
- A 10-dBA increase or decrease is a tenfold increase or decrease in acoustic pressure level but is perceived as a doubling or halving in loudness (i.e., the average person would judge a 10-dBA change in sound level to be twice or half as loud).

A dBA increase or decrease is a doubling (or halving) of a sound pressure level, and it corresponds to the threshold of change in loudness perceptible in a laboratory environment. In practice, the average person is not able to distinguish a 3-dBA difference in environmental sound outdoors.

Vibration Terminology

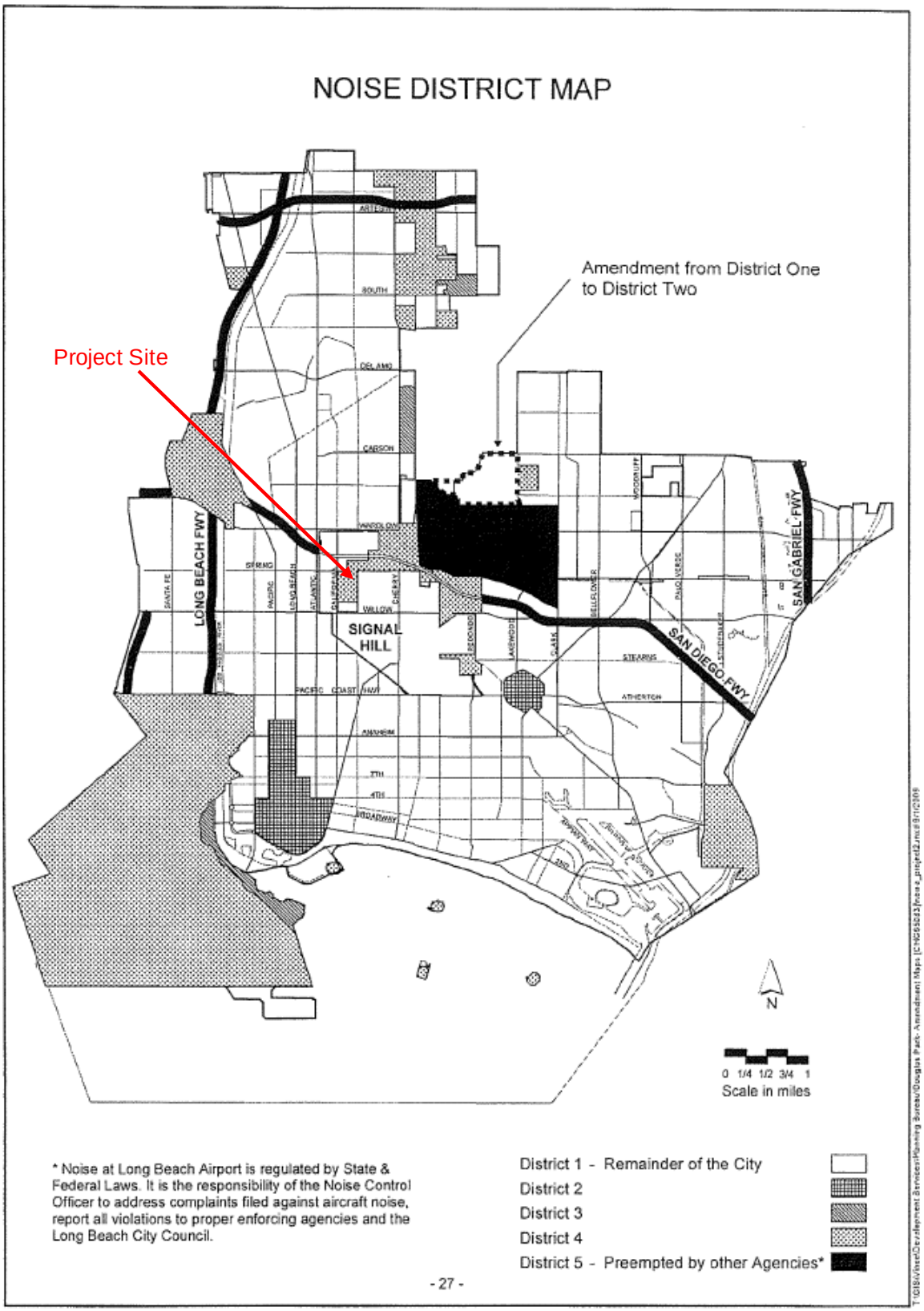
According to the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), construction activities can be a source of ground-borne vibration. Activities such as pile driving and operation of heavy equipment may cause ground-borne vibration during project construction. Vibration is an oscillatory motion that can be described in terms of the displacement, velocity, or acceleration (FTA 2018). Velocity or acceleration is typically used to describe vibration. Two descriptors are frequently used when discussing quantification of vibration, the peak particle velocity (PPV) and the root mean square (RMS):

- ***PPV:*** PPV is the maximum instantaneous positive or negative peak of the vibration signal (FTA 2018). The potential for damage to buildings due to construction-related vibration is evaluated using PPV.
- ***RMS:*** RMS is the square root of the average of the squared amplitude of the vibration signal, typically calculated over a 1-second period (FTA 2018). The potential to annoy humans due to construction-related vibration is evaluated using RMS.

Existing Noise Environment

The project is located within the City of Long Beach's Noise District 4 (Figure 3.4-1); however, the city's noise standards are based on the noise district of the receiving source and not the project site. Immediately north, south, and west of the project site are also District 4. Across Orange Avenue to the east is the City of Signal Hill. The nearest sensitive receptor is Calvary Chapel – Signal Hill church, located approximately 150 feet east of the project site across Orange Avenue in the City of Signal Hill, is the only sensitive receptor within 0.25 mile. The closest residences to the project site are the homes located 1,200 feet north across I-405. For purposes of this analysis, Calvary Chapel – Signal Hill is considered District 1, even though the church is not in a noise district specified by the City of Long Beach. This is because the project site is within the City of Long Beach and subject to the City of Long Beach regulations and the City of Signal Hill regulations are not applicable.

Figure 3.4-1. City of Long Beach Noise District Map



Source: City of Long Beach 2019b

Sensitive Land Uses

Certain land uses are considered more sensitive to noise than others. Examples of these types of land uses include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The project site is located in an urban area. The majority of the land uses in the project area are commercial and industrial in nature. The Calvary Chapel – Signal Hill church is located approximately 150 feet east of the project site across Orange Avenue and is the nearest noise sensitive land use. The closest residences to the project site are the homes located 1,200 feet north, across I-405.

Existing Traffic Noise Levels

The primary existing noise sources in the project area is traffic on the local roadways. Traffic on Spring Street and Orange Avenue is the dominant source contributing to area ambient noise levels. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along the roadway segments in the project vicinity. Existing traffic volumes included in the traffic study prepared for the project (Appendix E) were used to assess the existing traffic noise levels. A typical vehicle mix for Southern California was used. These noise levels represent the worst case scenario, which assumes that no shielding is provided between traffic and the location where the noise contours are drawn. Table 3.4-1 summarizes the existing traffic volumes within the project area.

Table 3.4-1. Existing Traffic Volumes

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Spring Street between California Avenue and Orange Avenue	20,695	<50	146.2	462.4	67.9
Spring Street between Orange Avenue and Walnut Avenue	20,940	<50	147.9	467.8	68.0
Orange Avenue between I-405 and Spring Street	17,175	<50	87.5	276.7	65.7
Orange Avenue between Spring Street and 29th Street	13,655	<50	96.5	305.1	66.1
Orange Avenue between 29th Street and Willow Street	13,485	<50	95.3	301.3	66.1
29th Street east of Orange Avenue	680	<50	<50	<50	52.9

Notes:
CNEL=community noise equivalent level; dBA=A-weighted decibels; I-405=Interstate 405

3.4.3 Regulatory Framework

This section provides an overview of state and local regulations related to noise issues applicable to the project.

State

California Department of Health Services

In 1976, the California Department of Health Services published guidelines for the noise element of local general plans (Governor's Office of Planning and Research 2017). These guidelines include a noise level/land use compatibility chart that categorizes various outdoor L_{dn} ranges for up to four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable), depending on land use.

These normally and conditionally acceptable L_{dn} ranges are intended to indicate that local conditions (existing noise levels and community attitudes toward dominant noise sources) should be considered in evaluating land use compatibility at specific locations. These guidelines are used by many agencies, environmental planners, and acoustical specialists as a starting point to evaluate the potential for noise impact on, and by, a project. The guidelines are also employed to evaluate methods for achieving noise compatibility with respect to nearby existing uses. Table 3.4-2 summarizes these guidelines for the normally and conditionally acceptable L_{dn} exposures.

Table 3.4-2. California Department of Health Services Noise Guidelines

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)	
	Normally Acceptable	Conditionally Acceptable
Residential – Low Density	50 - 60	60 - 70
Residential – High Density	50 - 65	65 - 70
Transient Lodging – Motels, Hotels	50 - 65	65 – 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 60	60 - 65
Auditoriums, Concert Halls, Amphitheaters	—	50 - 70
Sports Arenas, Outdoor Spectator Sports	—	50 - 75
Playgrounds, Neighborhood Parks	50 – 67.5	—
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	—
Office Buildings, Business Commercial and Professional	50 – 67.5	67.5 – 77.5
Industrial, Manufacturing, Utilities, Agriculture	50 - 70	70 - 80

Notes:
CNEL=community noise equivalent level; dBA=A-weighted decibel; L_{dn}=average hourly noise level

Local

City of Long Beach General Plan

The City of Long Beach adopted its own noise standards goals and policies in their *General Plan Noise Element* (City of Long Beach 1975a). Table 3.4-3 provides a summary of the recommended criteria for maximum acceptable noise levels for each major land use type.

Table 3.4-3. Recommended Criteria for Maximum Acceptable Noise Levels (A-weighted Decibels)

Major Land Use Type	Outdoor			Indoor
	Maximum Single Hourly Peak	L_{10}	L_{50}	L_{dn}
Residential (7:00 a.m. to 10:00 p.m.)	70	55	45	45
Residential (10:00 p.m. to 7:00 a.m.)	60	45	35	35
Commercial (anytime)	75	65	55	—
Industrial (anytime)	85	70	60	—

Notes:
L_{10}=noise level exceeded 10 percent of the time during a stated period; L_{50}=median noise level; L_{dn}=average hourly noise level

The City of Long Beach has published a public review draft for the new Noise Element for the General Plan (City of Long Beach 2019c). While this plan has not yet been adopted, the new Noise Element provides similar goals and policies, which require compliance with the LBMC and applicable regulations and ordinances.

City of Long Beach Municipal Code

The LBMC establishes exterior (Section 8.80.150) and interior noise (Section 8.80.170) limits by receiving land use. Table 3.4-4 and Table 3.4-5 summarize those noise limits. The LBMC Section 8.80.202 also restricts construction activities to weekdays between 7:00 a.m. and 7:00 p.m. and Saturdays between 9:00 a.m. and 6:00 p.m., except for emergency work. Construction work on Sundays is prohibited unless the City of Long Beach's Noise Control Officer issues a permit. The permit may allow work on Sundays between 9:00 a.m. and 6:00 p.m. LBMC Section 8.80.200(E) states that loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between 10:00 p.m. and 7:00 a.m. is restricted to the noise level provisions of exterior noise limits, shown in Table 3.4-4 and Table 3.4-5.

Table 3.4-4. Exterior Noise Limits

Receiving Land Use District	Time Period	Noise Level (dBA)	L_{max} (dBA)
District One	Night (10:00 p.m. to 7:00 a.m.)	45	65
	Day (7:00 a.m. to 10:00 p.m.)	50	70
District Two	Night (10:00 p.m. to 7:00 a.m.)	55	75
	Day (7:00 a.m. to 10:00 p.m.)	60	80
District Three	Any time	65	85
District Four	Any time	70	90
District Five	Regulated by other agencies and laws		

Notes:

District One – Predominantly residential with other land use types also present

District Two – Predominantly commercial with other land use types also present

District Three and Four – Predominantly industrial with other land use types also present. Limits are intended primarily for use at their boundaries rather for noise control within those districts

District Five – Airports, freeways, and waterways regulated by other agencies

dBA=A-weighted decibel; L_{max}=maximum A-weighted sound level

Table 3.4-5. Interior Noise Limits

Receiving Land Use District	Type of Land Use	Time Interval	Allowable Interior Noise Level (dBA)
All	Residential	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	35 45
All	School	7:00 a.m. to 10:00 p.m. (while school is in session)	45
Hospital, designated quiet zones, and noise sensitive zones	—	Any time	40

Notes:

dBA=A-weighted decibel

3.4.4 Analysis of Impacts

Methodology

The region of interest for noise and vibration issues is typically localized. Vibration from the project would only result during construction. Construction activities would take place only during daytime hours. An evaluation was performed of anticipated noise and vibration levels compared to regulatory requirements. Noise and vibration levels were estimated using existing conditions information, project construction details, and project operations information, as well as the Roadway Construction Noise Model (Version 1.1) and FHWA highway traffic noise prediction model (FHWA RD-77-108). The project is divided into five phases of construction (consistent with the CalEEMod for the air quality emission estimates provided in Section 3.1, Air Quality, of this EIR).

1. Site preparation
2. Grading
3. Building construction
4. Paving
5. Architectural coating

Noise

Noise generated by the project would consist of (1) short duration noise resulting from construction activities and (2) long-term noise from on-site stationary sources and off-site traffic noise from vehicles operated by employees using the proposed industrial buildings. As discussed above, the nearest sensitive receptor to the project site is considered District 1; therefore, according to Table 3.4-4, exterior noise impacts would be considered significant at 70 dBA. An increase of 3 dBA is considered to be a significant off-site traffic noise impact requiring mitigation. The city has not established an exterior CNEL noise standard for office uses. Therefore, for the purposes of this analysis, a significant on-site noise impact (assumed to be generated from project-related traffic) would occur if the interior noise exceeds 45 dBA CNEL.

Vibration

Ground-borne noise is the vibration of floors and walls that may cause rattling of items such as windows or dishes on shelves, or a rumbling noise. The rumbling is created by the motion of the room surfaces, which act like a giant loudspeaker. FTA provides criteria for acceptable levels of ground-borne vibration based on the relative perception of a vibration event for vibration sensitive land uses.

FTA provides criteria for acceptable levels of ground-borne vibration based on the relative perception of a vibration event for vibration-sensitive land uses (Table 3.4-6).

Table 3.4-6. Ground-borne Vibration and Noise Impact Criteria - Human Annoyance

Land Use Category	Max Lv (VdB)[1]	Description
Workshop	90	Distinctly felt vibration. Appropriate to workshops and non-sensitive areas.
Office	84	Felt vibration. Appropriate to offices and non-sensitive areas.
Residential – daytime	78	Barely felt vibration. Adequate for computer equipment.
Residential – nighttime	72	Vibration not felt, but ground-borne noise may be audible inside quiet rooms.

Notes:
[1] As measured in 1/3-octave bands of frequency over the frequency ranges of 8 to 80 Hertz
Lv=vibration level; VdB=velocity in decibels

The level at which ground-borne vibration is strong enough to cause structural damage has not been determined conclusively. The most conservative estimates are reflected in the FTA standards, shown in Table 3.4-7. According to Caltrans' *Transportation Related Earthborne Vibration* (Caltrans 2002a), extreme care must be taken when sustained pile driving occurs within 25 feet of any building; the threshold at which there is a risk of architectural damage to normal houses with plastered walls and ceilings is 0.2 inch per second.

Table 3.4-7. Ground-borne Vibration and Noise Impact Criteria - Structural Damage

Building Category	PPV (in/sec)[1]	VdB
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
II. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Notes:
[1] Root Mean Square velocity calculated from vibration level (VdB) using the reference of one microinch/second
PPV=peak particle velocity; VdB=velocity in decibels

Ground-borne vibrations generally attenuate rapidly with increasing distance from the vibration source. The distances involved depend primarily on the intensity of the vibrations generated by the source, as well as soil and geologic conditions. Detectable vibrations will travel the greatest distance through solid rock and the least distance through loose, unconsolidated soils or saturated soils. For vibration sources such as construction activity and vehicle traffic, the region of influence is typically less than 1,000 feet from the vibration source.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to noise and vibration are considered significant if any of the following occur:

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 ground-borne vibration or ground-borne 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, expose people residing or working in the project area to excessive noise levels

As discussed in the IS (Appendix A), criterion (c) would result in a less than significant impact and therefore is not included in the analysis below.

Impact Analysis

Threshold (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.

Noise generated by the project would consist of (1) short duration noise resulting from construction activities and (2) long-term noise from on-site stationary sources and off-site traffic noise from vehicles operated by employees using the proposed industrial buildings. Airborne noise dissipates with increasing distance from the noise source.

Construction

Construction noise, although temporary, can potentially affect nearby sensitive receptors, such as residences closest to the project site. Project construction would require the use of heavy equipment that may be periodically audible at off-site locations. Received noise levels would fluctuate, depending on the construction activity, equipment type, and distance between noise source and receiver. Additionally, noise from construction equipment would vary dependent on the construction phase and the number and type of equipment at a location at any given time. As described above, the project is divided into five phases of construction:

1. Site preparation
2. Grading
3. Building construction
4. Paving
5. Architectural coating

The variation in power and usage of the various construction equipment types creates complexity in characterizing construction noise levels. Expected equipment types for each phase of construction are presented in Table 3.4-8 and were used to screen for potential construction noise impacts. Each phase identified would require different types of construction equipment. The estimated composite site noise level is based on the assumption that all equipment would operate at a given usage load factor, for a given hour (i.e., front end loaders are assumed to be used for up to 40 percent of 1 hour, or 24 minutes), to calculate the composite average daytime hourly L_{eq}. The load factor accounts for the fraction of time that the equipment is in use over the specified time period. The composite noise level from several pieces of equipment operating during the same phase is obtained from dB addition of the L_{eq} of each individual unit. Although it is not possible for all the construction equipment to operate at one point simultaneously, the screening level analysis represented in Table 3.4-8 conservatively assumes concurrent operation of equipment in the same location.

The nearest sensitive receptor to the project site is the existing church to the east, across Orange Avenue. At its closest point, the construction activity would be located within 150 feet of this land use. Construction equipment would operate at various locations on the project site. The effective distance from the construction activities on the project site to this sensitive land use on an average workday is approximately 500 feet. Construction noise would attenuate with increased distance from the noise sources.

Maximum noise levels at 150 feet and composite L_{eq} noise levels at 500 feet, represented in Table 3.4-8, were evaluated assuming spherical free field spreading. As a general construction practice, functional mufflers are anticipated to be maintained on all equipment to attenuate noise levels as low as reasonably achievable. As shown in Table 3.4-8, during the loudest construction phase, the maximum noise level is projected to be 75.5 dBA L_{max}, and the average level is projected to be 64.9 dBA L_{eq}. The maximum noise level would exceed the City of Long Beach's exterior noise thresholds listed in Table 3.4-4. Therefore, this is a potentially significant impact.

Table 3.4-8. Project Construction Noise Levels by Phase

Phase	Equipment[1]			Composite Sound Level[3]	
	Type	Quantity	L_{max} at 50 feet[2]	L_{max} at 150 feet[2]	L_{eq} at 500 feet
Site preparation	Dozer	3	81.7	72.1	64.9
	Loader	4	79.1		
Grading	Scraper	1	83.6	75.5	64.4
	Grader	1	85.0		
	Dozer	1	81.7		
Building construction	Crane	2	80.6	71.1	63.4
	Forklift	3	74.7		
	Generator	1	80.6		
	Loader	3	79.1		
	Welder	1	74.0		

Table 3.4-8. Project Construction Noise Levels by Phase

Phase	Equipment[1]			Composite Sound Level[3]	
	Type	Quantity	L_{max} at 50 feet[2]	L_{max} at 150 feet[2]	L_{eq} at 500 feet
Paving	Paver	2	77.2	70.5	61.6
	Paving equipment	2	77.2		
	Roller	2	80.0		
Architectural coating	Compressor	2	80.6	71.1	60.6

Notes:

1 Equipment mix obtained from the CalEEMod emission calculations prepared for the project.

2 Measured L_{max} at given reference distance obtained from the 2006 FHWA Roadway Construction Noise Model.

3 Distance factor determined by the inverse square law defined as 6 dBA per doubling of distance as sound travels away from an idealized point.

CalEEMod=California Emissions Estimator Model; dBA=A-Weighted decibel; FHWA=Federal Highway Administration; L_{eq}=equivalent continuous sound level; L_{max}=maximum A-weighted sound level

Construction activities that comply with the hours listed in LBMC Section 8.80.202 are exempt from the City of Long Beach's exterior noise standards. Therefore, compliance with **Mitigation Measure NOI-1** would reduce the impact to less than significant. Although construction noise would be higher than the ambient noise in the project vicinity, construction noise is short term in nature and would cease once project construction is complete, and therefore, is considered less than significant with implementation of **Mitigation Measure NOI-1**.

Traffic noise associated with project construction is not anticipated to be a significant source of noise. Traffic noise is not greatly influenced by lower levels of traffic, such as those associated with the project's construction effort. For example, traffic levels would have to double for traffic noise on adjacent roadways to increase by 3 dBA. As shown in Table 3.4-1, there are currently 700 to 20,000 daily traffic trips on the local roadways. The project's construction traffic on adjacent roadways would increase hourly traffic volumes by much less than a factor of two; therefore, the increase in construction related traffic noise would be less than 3 dBA and is not significant.

Operation

TRAFFIC NOISE

Project related long-term vehicular trip increases are anticipated to be minimal when distributed to adjacent street segments. The FHWA highway traffic noise prediction model (FHWA RD 77 108) was used to evaluate highway traffic related noise conditions along the roadway segments in the project vicinity. The typical vehicle mix for Southern California was used. Table 3.4-9 shows that the project related traffic noise level increase would be 0.2 dBA or less for all analyzed roadway segments for the existing conditions with project traffic. Therefore, no significant off-site traffic noise impacts would occur under existing year conditions.

Table 3.4-9. Existing With Project Traffic Noise Levels

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Project Related Increase CNEL (dBA)
Spring Street between California Avenue and Orange Avenue	20,845	<50	147.3	465.7	68.0	0.0
Spring Street between Orange Avenue and Walnut Avenue	21,160	<50	149.5	472.8	68.0	0.0
Orange Avenue between I-405 and Spring Street	17,840	<50	90.9	287.4	65.9	0.2
Orange Avenue between Spring Street and 29th Street	14,275	<50	100.9	318.9	66.3	0.2
Orange Avenue between 29th Street and Willow Street	13,875	<50	98.0	310.0	66.2	0.1
29th Street east of Orange Avenue	680	<50	<50	<50	52.9	0.0

Notes:
CNEL=community noise equivalent level; dBA=A-weighted decibels; I-405=Interstate 405

Table 3.4-10 provides the traffic noise levels along the roadways adjacent to the project site under the cumulative (2038) without project traffic conditions. Table 3.4-11 provides the cumulative (2038) traffic noise level with project conditions on the roadways adjacent to the project site.

As shown in Table 3.4-11, the project-related traffic noise level increase would be 0.2 dBA or less for all analyzed roadway segments. Therefore, no significant off-site traffic noise impacts would occur under the cumulative conditions. No mitigation measures would be required for off-site land uses. The on-site buildings would be located at a distance of approximately 60 feet from the roadway centerline of Spring Street and Orange Avenue. At this distance, based on the noise levels listed in Table 3.4-12 the buildings along Spring Street would be exposed to an exterior noise level of 70 dBA CNEL, and the buildings along Orange Avenue would be exposed to an exterior noise level of 68 dBA CNEL.

Standard building construction provides 25 dBA of exterior to interior noise attenuation when windows are closed and 15 dBA of exterior to interior noise attenuation when windows are open (U.S. EPA 1978). All new construction requires some form of mechanical ventilation to ensure that proper indoor air quality is maintained even with all windows and doors closed. Therefore, with windows and doors closed, interior noise levels would meet the 45 dBA CNEL standard (i.e., 70 dBA – 25 dBA = 45 dBA). In addition, modern industrial building construction would likely provide more than the standard 25 dBA of noise attenuation. Therefore, no exterior mitigation measures are required.

Table 3.4-10. 2038 Without Project Traffic Volumes

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Spring Street between California Avenue and Orange Avenue	25,245	56.4	178.4	564.0	68.8
Spring Street between Orange Avenue and Walnut Avenue	25,590	57.2	180.8	571.7	68.9
Orange Avenue between I-405 and Spring Street	21,480	<50	109.4	346.1	66.7
Orange Avenue between Spring Street and 29th Street	17,365	<50	122.7	388.0	67.2
Orange Avenue between 29th Street and Willow Street	17,165	<50	121.3	383.5	67.1
29th Street east of Orange Avenue	810	<50	<50	<50	53.7

Notes:
CNEL=community noise equivalent level; dBA=A-weighted decibels; I-405=Interstate 405

Table 3.4-11. 2038 With Project Traffic Volumes

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Project-Related Increase CNEL (dBA)
Spring Street between California Avenue and Orange Avenue	25,395	56.7	179.4	567.4	68.8	0.0
Spring Street between Orange Avenue and Walnut Avenue	25,810	57.7	182.4	576.6	68.9	0.0
Orange Avenue between I-405 and Spring Street	22,145	<50	112.8	356.8	66.8	0.1
Orange Avenue between Spring Street and 29th Street	17,985	<50	127.1	401.8	67.3	0.2
Orange Avenue between 29th Street and Willow Street	17,555	<50	124.0	392.2	67.2	0.1
29th Street east of Orange Avenue	810	<50	<50	<50	53.7	0.0

Notes:
CNEL=community noise equivalent level; dBA=A-weighted decibels; I-405=Interstate 405

STATIONARY NOISE IMPACT

On-site stationary noise would include building heating, ventilation, and air conditioning systems; parking lot usage, including door closing/slamming, horn honking, and car alarms; and on-site truck movements. Heating, ventilation, and air conditioning systems typically result in noise levels that average between 50 and 60 dBA L_{max} at 50 feet from the equipment. Parking lots typically generate noise levels of up to 70 dBA L_{max} at 50 feet. Truck movements typically generate noise levels of up to 75 dBA L_{max} at 50 feet. The closest sensitive receptor to the project site, the church to the east, is located within 150 feet of the on-site stationary sources. Distance attenuation would reduce the on-site stationary noise by 10 dB to 65 dBA L_{max}. Therefore, the proposed project's stationary source noise impacts would be lower than the City of Long Beach's District 1 daytime threshold of 70 dBA L_{max}.

Threshold (b) Generation of excessive ground-borne vibration or groundborne noise levels.

Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Vibration-related impacts generally occur due to resonances in the structural components of a building, because structures amplify ground-borne vibration.

Table 3.4-12lists the vibration source amplitudes for construction equipment. As pile driving may be required, the highest reference PPV for the proposed project would be 0.644 inch per second.

Table 3.4-12. Vibration Source Amplitudes for Construction Equipment

Equipment	PPV at 25 feet (inch/second)	Approximate Lv[1] at 25 feet (VdB)
Pile driver (impact) – upper range	1.518	112
Pile driver (impact) – typical	0.644	104
Pile drive (sonic) – upper range	0.734	105
Pile drive (sonic) – typical	0.170	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall) – in soil	0.008	66
Hydromill (slurry wall) – in rock	0.017	75
Vibratory roller	0.210	94
Hoe ram	0.089	87
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: FTA 2018
[1] RMS (VdB) re 1 micro-inch/second
Lv=vibration level; PPV=peak particle velocity; RMS=root mean square; VdB=velocity in decibels

The church east of the project site would be located approximately 200 feet from the building footprint where pile driving may occur. Following FTA vibration guidance, at 200 feet, the pile driver vibration level would be 77 velocity in decibels (VdB). This level would not exceed FTA's daytime annoyance threshold of 78 VdB, as described in Table 3.4-6. Therefore, the impacts from construction vibration would be less than significant.

Cumulative Impacts

As discussed above, noise generated from the project would be (1) short duration noise resulting from construction activities and (2) long-term noise from on-site stationary sources and off-site traffic noise from vehicles operated by employees using the proposed industrial buildings.

Construction

Construction of the project would not contribute cumulatively to the noise and vibration levels together with other projects under construction. Implementation of the project would result in standing noise and traffic noise levels would remain lower than the noise level limits. Vibration levels would also remain at a level lower than the ground-borne vibration level limits. Therefore, construction of the proposed project would not contribute to significant cumulative noise and vibration impacts.

Operation

As shown in Table 3.4-11, the project-related traffic noise level increase would be 0.2 dBA or less for all analyzed roadway segments. In addition, the on-site stationary source noise levels would be localized and would not contribute to the regional noise environment. Therefore, operation of the proposed project would not contribute to significant cumulative noise impacts.

Mitigation Measures

NOI-1 **City Noise Construction Compliance.** Construction shall be limited to the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and Saturdays, between 9:00 a.m. and 6:00 p.m., in accordance with city standards. No construction activities shall occur outside of these hours or on federal holidays. Construction work on Sundays is prohibited unless the City of Long Beach's Noise Control Officer issues a permit. The permit may allow work on Sundays between 9:00 a.m. and 6:00 p.m.

The following measures shall be implemented by the contractor to reduce potential construction noise impacts on nearby sensitive receptors.

- During all site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall locate equipment staging in areas that would create the greatest distance between construction related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Level of Significance after Mitigation

Implementation of **Mitigation Measure NOI-1** would reduce short-term construction related potential significant impacts to a level less than significant by restricting construction time and construction noise control measures.

This page is intentionally blank.

3.5 Transportation

3.5.1 Overview

This section describes the existing transportation conditions and applicable laws and regulations associated with transportation, as well as an analysis of the potential effects resulting from implementation of the proposed project. Information contained in this section is summarized from the *Traffic Impact Analysis for Spring Street Business/Industrial Park* prepared by Linscott, Law, & Greenspan, Engineers dated December 11, 2019 (Appendix E).

3.5.2 Environmental Setting

Existing Facilities

Existing Street System

The principal local network of streets serving the project site includes Spring Street, Willow Street, Cherry Avenue, Orange Avenue, and Atlantic Avenue. The following summarizes the roadways that provide access to the project site:

- **Spring Street** is a four-lane, divided roadway oriented in the east-west direction. The speed limit is 40 miles per hour west of Orange Avenue and 45 miles per hour east of Orange Avenue. Parking is not permitted on either side of the roadway west of Orange Avenue; however, parking is permitted on both sides of the roadway east of Orange Avenue.
- **Willow Street** is a six-lane, divided roadway oriented in the east-west direction. The speed limit is 40 miles per hour. Parking is generally not permitted on either side of the roadway within the vicinity of the project.
- **Cherry Avenue** is a six-lane, divided roadway oriented in the north-south direction. The speed limit is 40 miles per hour. Parking is generally not permitted on either side of the roadway within the vicinity of the project.
- **Orange Avenue** is a two-lane, divided roadway north of Spring Street and a two-lane, undivided roadway south of Spring Street. The speed limit is 35 miles per hour north of Spring Street and 40 miles per hour south of Spring Street. Parking is generally not permitted on either side of the roadway within the vicinity of the project.
- **Atlantic Avenue** is a four-lane, divided roadway oriented in the north-south direction. The speed limit is 40 miles per hour. Parking is generally not permitted on either side of the roadway within the vicinity of the project.

Existing Public Transit

Long Beach Transit (LBT) provides public transit services in the vicinity of the proposed project. In the vicinity of the project, LBT Route 131 serves Spring Street; LBT Routes 102 and 104 serve Willow Street; LBT 21, 22, and 131 serve Cherry Avenue; LBT 71 and 72 serve Orange Avenue; and LBT Route 61, 101, and 103 serve Atlantic Avenue.

Existing Bicycle Master Plan

The City of Long Beach Bicycle Master Plan identifies existing and proposed bicycle facilities in the vicinity or the project site. Similarly, the City of Signal Hill Bicycle Master Plan also identifies proposed and existing bicycle facilities in the project area.

Both the City of Long Beach and City of Signal Hill classify the north side and south side of Spring Street, west of the project site, as a Class II bike lane. The bikeway in this section is discontinuous. Both the City of Long Beach and the City of Signal Hill classify Orange Avenue as a Class III bikeway; however, the City of Signal Hill specifies the Class III bikeway is north of the Caltrans ROW within the City of Signal Hill and classifies Orange Avenue as a Class II bike lane south of Spring Street. The City of Long Beach proposes a Class IV bikeway along Orange Avenue between 70th Street and the Pacific Coast Highway; however, this improvement is subject to review and approval of the City of Signal Hill given a section of Orange Avenue is located within Signal Hill's jurisdiction.

Existing Traffic Conditions

The Traffic Impact Analysis (TIA) evaluated fifteen key study intersections in the vicinity of the project site for the AM and PM peak periods on weekdays. The fifteen intersections are listed below.

1. Orange Avenue at 32nd Street
2. I-405 Northbound Ramps at 32nd Street
3. Orange Avenue at I-405 Southbound Ramps
4. Atlantic Avenue at Spring Street
5. Olive Avenue at Spring Street
6. California Avenue at Spring Street
7. Orange Avenue at Spring Street
8. Walnut Avenue at Spring Street
9. Cherry Avenue at Spring Street
10. I-405 Southbound Off-Ramp at Spring Street
11. Orange Avenue at 29th Street
12. California Avenue at Willow Street
13. Orange Avenue at Willow Street
14. Walnut Avenue at Willow Street
15. Cherry Avenue at Willow Street

Existing Conditions Analysis

Analysis of traffic operations are conducted according to the traffic impact study requirements of the City of Long Beach, as well as the City of Signal Hill, and is consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Los Angeles County*. The LOS conditions at the key study intersections were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects, and the proposed project. While the City of Long Beach does not require long-term traffic assessment, the City of Signal Hill

requested an analysis of long-term buildout (Year 2038) traffic conditions. The TIA includes an analysis of existing (2019), future (near-term Year 2021), and long-term buildout (Year 2038).

Additionally, the City of Long Beach plans to implement a Class IV (Protected Bike Lane) bikeway along Orange Avenue, which will span between 70th Street and the Pacific Coast Highway. As part of the planned bikeway, Orange Avenue would require a road diet, which would reduce the roadway from a four-lane roadway to a two-lane roadway. The City of Signal Hill classifies Orange Avenue as a Principal Arterial, which requires four lanes of travel and a painted or raised median; therefore, the road diet may not be implemented. To address this issue, the TIA includes an existing, future, and long-term buildout analysis of the 15 study intersections without the road diet and an alternative evaluation of the future and long-term buildout with the road diet. The alternative evaluation of the road diet only affects three intersections: (3) Orange Avenue at I-405 Southbound Ramps, (7) Orange Avenue at Spring Street, and (13) Orange Avenue at Willow Street.

In conformance with the City of Long Beach, City of Signal Hill, and Los Angeles County CMP, at signalized intersections, LOS analysis is performed using Intersection Capacity Utilization (ICU) operations methodology. In addition, analysis of traffic operations at unsignalized intersections is conducted utilizing the Highway Capacity Manual (HCM) methodology, which uses vehicular delay criteria to determine LOS. A brief description of each LOS letter grade, as well as the range of delays or volume/capacity (V/C) ratios associated with each grade for signalized and unsignalized intersections is presented in Table 3.5-1.

Table 3.5-1. Intersection Level of Service Definitions – Intersection Capacity Utilization and Methodologies

LOS	Description	Volume to Capacity Ratio	HCM Average Delay (sec) – Unsignalized Intersections	HCM Average Delay (sec) – Signalized Intersections (Caltrans)
A	Excellent. No vehicle waits longer than on red light, and no approach phase is fully used.	0.000-.0600	≤ 10	≤ 10
B	Very good. An occasional approach phase is fully utilized; many drivers being to feel somewhat restricted within groups of vehicles.	>0.601-0.700	>10.0 and ≤15.0	>10.0 and ≤20.0
C	Good. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	>0.701-0.800	>15.0 and ≤25.0	>20.0 and ≤35.0
D	Fair. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	>0.801-0.900	>25.0 and ≤35.0	>35.0 and ≤55.0
E	Poor. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	>0.901-1000	>35 and ≤50.0	>55 and ≤80.0

Table 3.5-1. Intersection Level of Service Definitions – Intersection Capacity Utilization and Methodologies

LOS	Description	Volume to Capacity Ratio	HCM Average Delay (sec) – Unsignalized Intersections	HCM Average Delay (sec) – Signalized Intersections (Caltrans)
F	Failure. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.	>1.000	>50	>80

Source: *Spring Street Traffic Impact Analysis* (Appendix E)
Notes:
Caltrans=California Department of Transportation; HCM=Highway Capacity Manual; LOS=level of service

The City of Long Beach and City of Signal Hill consider LOS D as the minimum acceptable LOS for all signalized intersections. A significant impact would occur if the project causes a study intersection to deteriorate from LOS D to LOS E or F, or the project increases traffic demand at the study intersection by 2 percent of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F when an intersection is operating at LOS E or F in the baseline condition. For unsignalized intersections, an impact is considered significant if the project causes an intersection operating at LOS D or better to degrade to LOS E or F, and the traffic signal warrant analysis determines that a traffic signal is justified. Note the local streets are not defined in the City of Long Beach General Plan. Thus, significant impact criteria does not apply to local streets.

The TIA analyzed the peak hour intersection capacity for multiple scenarios, including:

- Existing Traffic Conditions and Existing Plus Project Traffic Conditions
- Year 2021 Cumulative Traffic Conditions and Year 2021 Cumulative Plus Project Traffic Conditions, without road diet and with road diet
- Year 2038 Buildout Traffic Conditions and Year 2038 Buildout Plus Project Traffic Conditions, without road diet and with road diet

The cumulative projects analyzed in the TIA are described in Chapter 3.0 of this EIR. Included in the cumulative background traffic conditions for the alternative analysis of the "with road diet" scenario is the planned City of Long Beach Class IV Protected Bike Lane bikeway along Orange Avenue. The bikeway will span between 70th Street and Pacific Coast Highway. The bikeway project is anticipated to be completed by the Spring Street Business Park Project opening year. As part of the improvements associated with the bikeway project, a road diet along Orange Avenue will be implemented, which will reduce Orange Avenue from a four-lane roadway to a two-lane roadway. Additional improvements needed for the bikeway are described in Appendix E.

Additionally, the TIA includes a Caltrans analysis for the same scenarios analyzed for peak hour intersection capacity. Three of the study intersections are state-controlled (Caltrans); therefore, the TIA analysis was prepared in conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies, December 2002* (Caltrans 2002b). Analysis of traffic operations for Caltrans jurisdictional intersections used the HCM LOS criteria for signalized intersections, as shown in Table 3.5-1. Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS

D on state highway facilities; therefore, for this analysis, LOS D is the target LOS standard for the state-controlled study intersections. The following intersections are under Caltrans jurisdiction:

2. I-405 Northbound Ramps at 32nd Street (City of Signal Hill/Caltrans)
3. Orange Avenue at I-405 Southbound Ramps (City of Long Beach/Caltrans)
10. I-405 Southbound Off-Ramp at Spring Street (City of Long Beach/City of Signal Hill/Caltrans)

The intersection of Orange Avenue at I-405 Southbound Ramps also includes the alternative evaluation of the "with road diet" scenario. Additionally, the TIA also includes an intersection left-turn vehicle queuing analysis and traffic signal warrant analysis.

Existing Traffic Volumes

Table 3.5-2 lists the fifteen key study intersections, as well as the jurisdiction, control type, and existing intersection capacity.

Table 3.5-2. Study Intersections

Key Intersection	Jurisdiction	Control Type	Time Period	ICU/HCM	LOS
1. Orange Avenue at 32nd Street	Signal Hill	2 Ø Traffic Signal	AM PM	0.719 0.856	C D
2. I-405 Northbound Ramps at 32nd Street	Caltrans/Signal Hill	One-Way Stop	AM PM	11.0 s/v 14.3 s/v	B B
3. Orange Avenue at I-405 Southbound Ramps	Caltrans/Long Beach	One-Way Stop	AM PM	44.0 s/v 90.6 s/v	E F
4. Atlantic Avenue at Spring Street	Long Beach/Signal Hill	6 Ø Traffic Signal	AM PM	0.732 0.828	C D
5. Olive Avenue at Spring Street	Signal Hill	3 Ø Traffic Signal	AM PM	0.454 0.519	A A
6. California Avenue at Spring Street	Long Beach/Signal Hill	2 Ø Traffic Signal	AM PM	0.590 0.714	A C
7. Orange Avenue at Spring Street	Long Beach/Signal Hill	2 Ø Traffic Signal	AM PM	0.826 0.833	D D
8. Walnut Avenue at Spring Street	Long Beach/Signal Hill	2 Ø Traffic Signal	AM PM	0.584 0.717	A C
9. Cherry Avenue at Spring Street	Long Beach/Signal Hill	8 Ø Traffic Signal	AM PM	0.690 0.738	B C
10. I-405 Southbound Off-Ramp at Spring Street	Caltrans/Long Beach/Signal Hill	2 Ø Traffic Signal	AM PM	0.732 0.719	C C
11. Orange Avenue at 29th Street	Long Beach/Signal Hill	One-Way Stop	AM PM	13.9 s/v 14.1 s/v	B B
12. California Avenue at Willow Street	Long Beach/Signal Hill	2 Ø Traffic Signal	AM PM	0.613 0.593	B A

Table 3.5-2. Study Intersections

Key Intersection	Jurisdiction	Control Type	Time Period	ICU/HCM	LOS
13. Orange Avenue at Willow Street	Long Beach/Signal Hill	8 Ø Traffic Signal	AM PM	0.736 0.845	C D
14. Walnut Avenue at Willow Street	Signal Hill	5 Ø Traffic Signal	AM PM	0.510 0.617	A B
15. Cherry Avenue at Willow Street	Signal Hill	8 Ø Traffic Signal	AM PM	0.687 0.818	B D

Notes:
Ø=Phase; Caltrans=California Department of Transportation; HCM=Highway Capacity Manual; I-405=Interstate 405; ICU=Intersection Capacity Utilization; LOS=level of service; s/v=seconds per vehicle

3.5.3 Regulatory Framework

Table 3.5-3 identifies and summarizes laws, regulations, and plans relative to transportation.

Table 3.5-3. Applicable Laws, Regulations, and Plans for Transportation

Laws, Regulation, or Plan	Description
State	
Caltrans	Caltrans is the primary state agency responsible for transportation issues. One of its duties is the construction and maintenance of the state highway system. Caltrans has established standards for street traffic flow and has developed procedures to determine if intersections require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities, but may influence traffic flow and levels of services at such facilities, these potential impacts on Caltrans facilities would need to be analyzed in accordance with Caltrans protocol, and Caltrans may recommend measures to mitigate the traffic impacts of such projects.
Regional	
CMP for Los Angeles County	The CMP was created as a result of Proposition 111. On October 28, 2010, the Los Angeles County Metropolitan Transportation Authority Board adopted the 2010 CMP for Los Angeles County. The CMP was adopted primarily to monitor and maintain LOS standards across the network of all CMP facilities, including state highways and principal arterials within Los Angeles County. The CMP requires that potential project impacts on CMP monitoring locations are analyzed as part of proposed new development projects, if an EIR is prepared for the project. Per the 2010 CMP, a significant impact occurs when a project increases traffic demand on a CMP facility by 2 percent of capacity (V/C ≥ 0.02), causing LOS F (V/C > 1.00); if the facility is already at LOS F, a significant impact occurs when a project increases traffic demand on a CMP facility by 2 percent of capacity (V/C ≥ 0.02).

Table 3.5-3. Applicable Laws, Regulations, and Plans for Transportation

Laws, Regulation, or Plan	Description
Local	
City of Long Beach General Plan – Mobility Element	The City of Long Beach General Plan Mobility Element, updated in 2013, establishes the vision, goals, policies, and implementation measures required to improve and enhance the city's local and regional transportation networks. The Mobility Element describes LOS as the system the City of Long Beach uses to measure the efficiency and performance of traffic operations at a specific location.
City of Long Beach General Plan – Bicycle Master Plan	The City of Long Beach General Plan Bicycle Master Plan builds upon a long-standing effort to make Long Beach a city known for its bicycle-friendliness and as an active, healthy, and prosperous place to live, work, and play. The plan is in compliance with AB 32 and the Complete Streets Act. The plan recommends a series of projects and programs to be implemented by the City of Long Beach in the next few decades.
LBMC	Chapter 8.80.202 restricts construction activities to weekdays between 7:00 a.m. and 7:00 p.m. and Saturdays between 9:00 a.m. and 6:00 p.m., except for emergency work. Construction work on Sundays is prohibited unless the City of Long Beach's Noise Control Officer issues a permit. The permit may allow work on Sundays between 9:00 a.m. and 6:00 p.m. Chapter 21.41.140 describes general provisions for off-street parking and loading requirements, including location of proposed parking and loading, as well as location of driveways.

Notes:
AB=assembly bill; Caltrans=California Department of Transportation; CMP=Congestion Management Program; EIR=environmental impact report; LBMC=Long Beach Municipal Code; LOS=level of service; V/C=volume to capacity ratio

3.5.4 Analysis of Impacts

Methodology

The TIA details the methodology used for traffic forecasting (Appendix E). In order to estimate the traffic impact characteristics of the proposed project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

Trip Generation

Trip generation for the proposed project was completed for two development type alternatives, as shown in Table 3.5-4, because the project includes both manufacturing and warehouse land uses (ancillary offices and associated passenger car trips included). The first alternative analyzes the project utilizing the manufacturing land use. The second alternative analyzes the project utilizing the warehousing land use. As shown in Table 3.5-4, the trip generation under land use code manufacturing would generate approximately 757 total daily trips, and the trip generation under land use code warehousing would generate approximately 335 total daily trips. To provide a conservative assessment, the trip generation for manufacturing was analyzed in the TIA.

Table 3.5-4. Project Trip Generation Forecast

Land Use (ITE Code)	Size	Trip Generation Rates							Trip Generation								
		AM Peak Hour			PM Peak Hour			Daily	Generation Forecasts		AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total		Building	Traffic Type	In	Out	Total	In	Out	Total	
Manufacturing (140)	160,673 SF	77%	23%	0.67	31%	69%	0.67	3.93	Building 1 (39,812 SF)	Passenger Car	15	5	20	6	16	22	125
										Truck PCE	8	2	10	4	6	10	62
									Building 2 (48,745 SF)	Passenger Car	18	6	24	8	18	26	154
										Truck PCE	10	2	12	4	10	14	76
									Building 3 (72,116 SF)	Passenger Car	28	8	36	12	26	38	226
										Truck PCE	14	4	18	6	14	20	114
Total											93	27	120	40	90	130	757
Warehousing (150)	160,673 SF	77%	23%	0.17	27%	73%	0.19	1.74	Building 1 (39,812 SF)	Passenger Car	4	2	6	2	4	6	55
										Truck PCE	2	0	2		4	4	28
									Building 2 (48,745 SF)	Passenger Car	5	1	6	2	5	7	68
										Truck PCE	2	2	4	0	4	4	34
									Building 3 (72,116 SF)	Passenger Car	7	3	10	3	8	11	100
										Truck PCE	4	0	4	2	4	6	50
Total											24	8	32	9	29	38	335

Source: *Spring Street Traffic Impact Analysis* (Appendix E)

Notes:

Manufacturing truck estimates: 20 percent trucks, PCE = 2.0 vehicles per truck; warehousing truck estimates: 20 percent trucks. PCE = 2.0 vehicles per truck

ITE=Institute of Transportation Engineers; SF=square feet; PCE=passenger car equivalency

Traffic Distribution and Assignment

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

The TIA includes the details of the directional traffic distribution pattern for both passenger vehicles and trucks. Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- Location of site access points in relation to the surrounding street system
- The site's proximity to major traffic carriers and regional access routes
- Physical characteristics of the circulation system, such as lane channelization and presence of traffic signals that affect travel patterns
- City of Long Beach and Signal Hill designated truck routes
- Ingress/egress availability at the project site, plus parking layout and allocation within the subject property

With the forecasting process complete and project traffic assignments developed, the impact of the project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to transportation and traffic are considered significant if any of the following occur:

a) Conflict with plan, ordinance or policy addressing the circulation system, including transit roadway, bicycle and pedestrian facilities

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

c) Substantially increase hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

d) Result in inadequate emergency access

As discussed in the IS (Appendix A), criterion (b), (c), and (d) would result in a less than significant impact or no impact, and therefore, are not included in the analysis below.

City of Long Beach and City of Signal Hill Significant Impact Criteria

The City of Long Beach and City of Signal Hill significant impact criteria consider impacts on local and regional transportation systems significant if:

- **Signalized Intersections** – The project causes a study intersection to deteriorate from LOS D to LOS E or F. LOS D (ICU = 0.801 – 0.900) is the minimum acceptable LOS for all signalized intersections. A significant impact would occur if the project causes a study intersection to deteriorate from LOS D to LOS E or F, or the project increases traffic demand at the study intersection by 2 percent of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F when an intersection is operating at LOS E or F in the baseline condition.
- **Unsignalized Intersections** – The project causes an intersection operating at LOS D or better to degrade to LOS E or F, and the traffic signal warrant analysis determines that a traffic signal is justified. Note the local streets are not defined in the City of Long Beach General Plan. Thus, significant impact criteria does not apply to local streets.

Impact Analysis

Threshold (a) Conflict with program, ordinance or policy addressing the circulation system, including transit roadway, bicycle and pedestrian facilities.

As described above, the City of Long Beach and City of Signal Hill have adopted thresholds for LOS at signalized and unsignalized intersections. Operation of the project would increase LOS at multiple intersections, which would conflict with the thresholds adopted by the City of Long Beach and City of Signal Hill, with and without the road diet. Additionally, Caltrans has different thresholds for LOS at signalized intersections and operation of the project would conflict with these thresholds at one intersection with or without the road diet implementation.

Construction

During construction, construction-related traffic, such as deliveries of equipment and materials and construction worker traffic, would be generated. However, construction traffic would be temporary and would not substantially interfere with the existing traffic load and capacity of the street system.

Operation

During operation, the project would generate traffic. As discussed above, the TIA analyzed the trip generation for manufacturing land use, which would generate approximately 757 trips per day, with 120 new AM peak hour trips and 130 new PM peak hour trips, as shown in Table 3.5-4.

EXISTING TRAFFIC CONDITIONS AND EXISTING PLUS PROJECT TRAFFIC CONDITIONS

Table 3.5-5 summarizes the LOS for the existing conditions plus project traffic conditions for the 15 study intersections. The intersection of Orange Avenue/I-405 Southbound Ramps is forecast to operate at unacceptable LOS E in the AM peak hour and LOS F in the PM peak hour. However, the intersection is not considered significantly impacted when compared with the LOS standards and significant impact criteria outlined above for the City of Long Beach and City of Signal Hill because the intersection currently operates at an LOS E for AM peak hour and LOS F for PM peak hour.

YEAR 2021 CUMULATIVE TRAFFIC CONDITIONS AND YEAR 2021 CUMULATIVE PLUS TRAFFIC CONDITIONS WITHOUT ROAD DIET

Table 3.5-6 summarizes the Year 2021 cumulative peak hour intersection capacity analysis. Out of the 15 study intersections, 5 are forecasted to operate adversely with the addition of project traffic. One intersection, Orange Avenue/I-405 Southbound Ramps, which is under the jurisdiction of the City of Long Beach and Caltrans, would operate at LOS E in the AM peak hour and LOS F in the PM peak hour. However, this is not considered significant under the City of Long Beach criteria because the intersection currently operates at an adverse LOS and, therefore, does not deteriorate from an acceptable LOS (Caltrans significant impact criteria is discussed below). Two intersections (Atlantic Avenue/Spring Street and Orange Avenue/Willow Street) would not be considered a significant impact because the project increment adds less than 0.020 to the ICU value. The two remaining intersections (Orange Avenue/32nd Street and Orange Avenue/Spring Street) would result in significant impacts; however, implementation of **Mitigation Measures TRAN-1 and TRAN-2** would reduce these impacts, as shown in Table 3.5-6. Implementation of **Mitigation Measure TRAN-2** would result in a less than significant impact at the intersection of Orange Avenue and Spring Street.

However, the City of Signal Hill has jurisdiction over the intersection of Orange Avenue and 32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~ remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

YEAR 2038 BUILDOUT TRAFFIC CONDITIONS AND YEAR 2038 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS WITHOUT ROAD DIET

Table 3.5-7 summarizes Year 2038 buildout peak hour intersection capacity analysis. Out of the 15 study intersections, 6 are forecasted to operate adversely with the addition of project traffic. One intersection, Orange Avenue/I-405 Southbound Ramps, which is under the jurisdiction of the City of Long Beach and Caltrans, would operate at LOS E in the AM peak hour and LOS F in the PM peak hour. However, this is not considered significant under the City of Long Beach criteria because the intersection currently operates at an adverse LOS and, therefore, does not deteriorate from an acceptable LOS (Caltrans significant impact criteria is discussed below). Three intersections (Atlantic Avenue/Spring Street, Orange Avenue/Willow Street, and Cherry Avenue/Willow Street) would not be considered a significant impact because the project increment adds less than 0.020 to the ICU value. The remaining two intersections (Orange Avenue/32nd Street and Orange Avenue/Spring Street) would result in significant impacts; however, implementation of **Mitigation Measures TRAN-1 and TRAN-2** would reduce these impacts, as shown in Table 3.5-7. Implementation of **Mitigation Measure TRAN-2** would result in a less than significant impact at the intersection of Orange Avenue and Spring Street.

However, the City of Signal Hill has jurisdiction over the intersection of Orange Avenue and 32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

YEAR 2021 CUMULATIVE TRAFFIC CONDITIONS AND YEAR 2021 CUMULATIVE PLUS TRAFFIC CONDITIONS WITH ROAD DIET

Table 3.5-8 summarizes the Year 2021 cumulative peak hour intersection capacity analysis with road diet for the three affected intersections. All three of the alternative evaluation intersections are forecasted to operate adversely with the addition of project traffic. One intersection, Orange Avenue/I-405 Southbound Ramps, which is under the jurisdiction of the City of Long Beach and Caltrans, would operate at LOS E in the AM peak hour and LOS F in the PM peak hour. However, this is not considered significant under the City of Long Beach criteria because the intersection currently operates at an adverse LOS and, therefore, does not deteriorate from an acceptable LOS (Caltrans significant impact criteria is discussed below). The Orange Avenue and Willow Street intersection would not be considered a significant impact because the project increment adds less than 0.020 to the ICU value. The remaining intersection Orange Avenue and Spring Street would result in significant impacts. Implementation of **Mitigation Measure TRAN-3** would reduce the impact at Orange Avenue and Spring Street from LOS F to LOS E, as shown in Table 3.5-8. This impact would remain significant with implementation of mitigation because the intersection would deteriorate from LOS D to LOS E, which is considered a significant impact under the City of Long Beach and City of Signal Hill criteria. No additional feasible mitigation measures have been identified for this intersection.

YEAR 2038 BUILDOUT TRAFFIC CONDITIONS AND YEAR 2038 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS WITH ROAD DIET

Table 3.5-9 summarizes Year 2038 buildout peak hour intersection capacity analysis with road diet for the three affected intersections. All three of the alternative evaluation intersections are forecasted to operate adversely with the addition of project traffic. One intersection, Orange Avenue/I-405 Southbound Ramps, which is under the jurisdiction of the City of Long Beach and Caltrans, would operate at LOS E in the AM peak hour and LOS F in the PM peak hour. However, this is not considered significant under the City of Long Beach criteria because the intersection currently operates at an adverse LOS and therefore does not deteriorate from an acceptable LOS (Caltrans significant impact criteria is discussed below). One intersection (Orange Avenue/Willow Street) would not be considered a significant impact because the project increment adds less than 0.020 to the ICU value. The remaining intersection, Orange Avenue and Spring Street, would result in significant impacts. Implementation of **Mitigation Measure TRAN-3** would reduce the impact at Orange Avenue and Spring Street, as shown in Table 3.5-9; however, the LOS would remain at an adverse LOS of F.

This impact would remain significant with implementation of mitigation because the intersection would deteriorate from LOS D to LOS F, which is considered a significant impact under the City of Long Beach and City of Signal Hill criteria. No additional feasible mitigation measures have been identified for this intersection.

CALTRANS ANALYSIS

The TIA also analyzed three state-controlled intersections (I-405 Northbound Ramps at 32nd Street, Orange Avenue at I-405 Southbound Ramps, and I-405 Southbound Off-Ramp at Spring Street) for all scenarios, as summarized in Table 3.5-5 through Table 3.5-9. The Orange Avenue and I-405 Southbound Ramps intersection would result in a significant impact under Year 2021 Cumulative with Road Diet and without Road Diet and Year 2038 Buildout with Road Diet and without Road Diet. Implementation of **Mitigation Measures TRAN-4 and TRAN-5** would reduce these impacts, as shown in Table 3.5-6, Table 3.5-7, Table 3.5-8, and Table 3.5-9.

However, Caltrans has jurisdiction over the Orange Avenue and I-405 Southbound Ramps intersection. Caltrans does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and I-405 Southbound Ramps. Due to the fact that **Mitigation Measures TRAN-4 and TRAN-5** are subject to approval by and are the responsibility of another agency (Caltrans) and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measures TRAN-4 and TRAN-5** are potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, these impacts ~~are considered~~remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

PEDESTRIAN FACILITIES

As part of the project, a new sidewalk along Orange Avenue is proposed. Currently, pedestrian access is insufficient due to the lack of continuous sidewalk along Orange Avenue. Pedestrian circulation would be provided via existing public sidewalks along Spring Street and Orange Avenue within the vicinity of the project frontage, which will connect to the new sidewalk on Orange Avenue. The project would not result in conflicts with pedestrian facilities, rather construction of the sidewalk would create code-compliant pedestrian facilities on Orange Avenue where there are currently none. This would result in a benefit by increasing pedestrian access, compliance with Americans with Disabilities Act, and increasing bicycle safety.

Table 3.5-5. Existing Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary

Intersection	Time Period	Existing Conditions LOS	Existing Plus Project Conditions LOS	Change ICU (s/v where necessary)		Significant Impact (City Criteria)?	Significant Impact (Caltrans Criteria)?
				AM Peak Hour	PM Peak Hour		
1. Orange Avenue at 32nd Street	AM	C	C	.719	.733	No	—
	PM	D	D	.856	.879		
2. I-405 Northbound Ramps at 32nd Street	AM	B	B	11.0 s/v	11.2 s/v	No	No
	PM	B	B	14.3 s/v	14.7 s/v		
3. Orange Avenue at I-405 Southbound Ramps	AM	**E**	**E**	**44.0 s/v**	**47.8 s/v**	No*	No
	PM	**F**	**F**	**90.6 s/v**	**106.4 s/v**		
4. Atlantic Avenue at Spring Street	AM	C	C	.732	.733	No	—
	PM	D	D	.828	.828		
5. Olive Avenue at Spring Street	AM	A	A	.454	.455	No	—
	PM	A	A	.519	.520		
6. California Avenue at Spring Street	AM	A	A	.590	.590	No	—
	PM	C	C	.714	.715		
7. Orange Avenue at Spring Street	AM	D	C	.826	.708	No	—
	PM	D	C	.833	.754		
8. Walnut Avenue at Spring Street	AM	A	A	.584	.589	No	—
	PM	C	C	.717	.723		
9. Cherry Avenue at Spring Street	AM	B	B	.690	.693	No	—
	PM	C	C	.738	.741		

Table 3.5-5. Existing Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary

Intersection	Time Period	Existing Conditions LOS	Existing Plus Project Conditions LOS	Change ICU (s/v where necessary)		Significant Impact (City Criteria)?	Significant Impact (Caltrans Criteria)?
				AM Peak Hour	PM Peak Hour		
10. I-405 Southbound Off-Ramp at Spring Street	AM	C	C	.732	0.6	No	No
	PM	C	C	.719	.732		
11. Orange Avenue at 29th Street	AM	B	B	13.9 s/v	14.3 s/v	No	—
	PM	B	B	14.1 s/v	14.3 s/v		
12. California Avenue at Willow Street	AM	B	B	.613	.613	No	—
	PM	A	A	.593	.594		
13. Orange Avenue at Willow Street	AM	C	C	.736	.746	No	—
	PM	D	D	.845	.853		
14. Walnut Avenue at Willow Street	AM	A	A	.510	.512	No	—
	PM	B	B	.617	.619		
15. Cherry Avenue at Willow Street	AM	B	B	.687	.689	No	—
	PM	D	D	.818	.819		

Source: *Spring Street Traffic Impact Analysis* (Appendix E)

Notes:

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

Bold text indicates an unacceptable LOS.

Caltrans=California Department of Transportation; I-405=Interstate 405; ICU=Intersection change utilization; LOS=level of service; s/v=seconds per vehicle (delay)

Table 3.5-6. Year 2021 Cumulative Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2021 Cumulative Traffic Conditions		Year 2021 Cumulative Plus Project		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2021 Cumulative Plus Project Traffic Conditions with Mitigation	
		ICU/ HCM	LOS	ICU/ HCM	LOS	ICU/ HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
1. Orange Avenue at 32nd Street	AM	0.719	C	0.763	C	0.776	C	0.013	No	—	0.681	B
	PM	0.856	D	**0.905**	**E**	**0.929**	**E**	**0.024**	**Yes**	—	0.726	C
2. I-405 Northbound Ramps at 32nd Street	AM	11.0 s/v	B	11.3 s/v	B	11.4 s/v	B	0.100	No	No	—	—
	PM	14.3 s/v	B	15.0 s/v	B	15.5 s/v	C	0.500	No	No	—	—
3. Orange Avenue at I-405 Southbound Ramps	AM	**44.0 s/v**	**E**	**61.8 s/v**	**F**	**67.4 s/v**	**F**	—	No*	**Yes**	20.7 s/v	C
	PM	**90.6 s/v**	**F**	**142.8 s/v**	**F**	**164.4 s/v**	**F**	—	No	No	13.8 s/v	B
4. Atlantic Avenue at Spring Street	AM	0.732	C	0.800	C	0.800	C	0.000	No	—	—	—
	PM	0.828	D	**0.906**	**E**	**0.906**	**E**	0.000	No	—	—	—
5. Olive Avenue at Spring Street	AM	0.454	A	0.472	A	0.472	A	0.000	No	—	—	—
	PM	0.519	A	0.537	A	0.538	A	0.001	No	—	—	—
6. California Avenue at Spring Street	AM	0.590	A	0.611	B	0.611	B	0.000	No	—	—	—
	PM	0.714	C	0.741	C	0.741	C	0.000	No	—	—	—
7. Orange Avenue at Spring Street	AM	0.826	D	0.888	D	**0.926**	**E**	**0.038**	**Yes**	—	0.745	C
	PM	0.833	D	0.890	D	**0.912**	**E**	**0.022**	**Yes**	—	0.797	C
8. Walnut Avenue at Spring Street	AM	0.584	A	0.611	B	0.616	B	0.005	No	—	—	—
	PM	0.717	C	0.750	C	0.755	C	0.005	No	—	—	—

Table 3.5-6. Year 2021 Cumulative Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2021 Cumulative Traffic Conditions		Year 2021 Cumulative Plus Project		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2021 Cumulative Plus Project Traffic Conditions with Mitigation	
		ICU/ HCM	LOS	ICU/ HCM	LOS	ICU/ HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
9. Cherry Avenue at Spring Street	AM	0.690	B	0.720	C	0.723	C	0.003	No	—	—	—
	PM	0.738	C	0.777	C	0.780	C	0.003	No	—	—	—
10. I-405 Southbound Off-Ramp at Spring Street	AM	0.732	C	0.758	C	0.763	C	0.005	No	No	—	—
	PM	0.719	C	0.747	C	0.751	C	0.004	No	No	—	—
11. Orange Avenue at 29th Street	AM	13.9 s/v	B	14.8 s/v	B	15.2 s/v	C	—	No	—	—	—
	PM	14.1 s/v	B	15.3 s/v	C	15.6 s/v	C	—	No	—	—	—
12. California Avenue at Willow Street	AM	0.613	B	0.638	B	0.638	B	0.000	No	—	—	—
	PM	0.593	A	0.620	B	0.620	B	0.000	No	—	—	—
13. Orange Avenue at Willow Street	AM	0.736	C	0.804	D	0.813	D	0.009	No	—	—	—
	PM	0.845	D	**0.921**	**E**	**0.929**	**E**	0.008	No	—	—	—
14. Walnut Avenue at Willow Street	AM	0.510	A	0.533	A	0.535	A	0.002	No	—	—	—
	PM	0.671	B	0.654	B	0.655	B	0.001	No	—	—	—
15. Cherry Avenue at Willow Street	AM	0.687	B	0.723	C	0.725	C	0.002	No	—	—	—
	PM	0.818	D	0.874	D	0.876	D	0.002	No	—	—	—

Source: *Spring Street Traffic Impact Analysis* (Appendix E)

Notes:

Bold text indicates an unacceptable LOS.

Caltrans=California Department of Transportation; HCM=highway congestion manual; I-405=Interstate 405; ICU=Intersection change utilization; LOS=level of service; s/v=seconds per vehicle (delay)

Table 3.5-7. Year 2038 Buildout Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2038 Buildout Traffic Conditions		Year 2038 Buildout Plus Project Traffic Conditions		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2038 Buildout Plus Project Traffic Conditions with Mitigation	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
1. Orange Avenue at 32nd Street	AM	0.719	C	0.868	D	0.881	D	0.013	No	—	0.771	C
	PM	0.856	D	**1.034**	**F**	**1.058**	**F**	**0.024**	**Yes**	—	0.826	D
2. I-405 Northbound Ramps at 32nd Street	AM	11.0 s/v	B	12.1 s/v	B	12.3 s/v	B	0.2 s/v	No	No	—	—
	PM	14.3 s/v	B	18.6 s/v	C	19.5 s/v	C	0.9 s/v	No	No	—	—
3. Orange Avenue at I-405 Southbound Ramps	AM	**44.0 s/v**	**E**	**170.0 s/v**	**F**	**181.1 s/v**	**F**	—	No*	**Yes**	22.2 s/v	C
	PM	**90.6 s/v**	**F**	**367.8 s/v**	**F**	**409.2 s/v**	**F**	—	No	No	14.9 s/v	B
4. Atlantic Avenue at Spring Street	AM	0.732	C	**0.908**	**E**	**0.908**	**E**	0.000	No	—	—	—
	PM	0.828	D	**1.030**	**F**	**1.030**	**F**	0.000	No	—	—	—
5. Olive Avenue at Spring Street	AM	0.454	A	0.532	A	0.533	A	0.001	No	—	—	—
	PM	0.519	A	0.608	B	0.609	B	0.001	No	—	—	—
6. California Avenue at Spring Street	AM	0.590	A	0.694	B	0.694	B	0.000	No	—	—	—
	PM	0.714	C	0.845	D	0.845	D	0.000	No	—	—	—
7. Orange Avenue at Spring Street	AM	0.826	D	**1.012**	**F**	**1.049**	**F**	**0.037**	**Yes**	**—**	0.845	D
	PM	0.833	D	**1.014**	**F**	**1.036**	**F**	**0.022**	**Yes**	**—**	0.865	D**
8. Walnut Avenue at Spring Street	AM	0.584	A	0.693	B	0.698	B	0.005	No	—	—	—
	PM	0.717	C	0.856	D	0.860	D	0.004	No	—	—	—

Table 3.5-7. Year 2038 Buildout Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2038 Buildout Traffic Conditions		Year 2038 Buildout Plus Project Traffic Conditions		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2038 Buildout Plus Project Traffic Conditions with Mitigation	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
9. Cherry Avenue at Spring Street	AM	0.690	B	0.820	D	0.824	D	0.004	No	—	—	—
	PM	0.738	C	0.885	D	0.888	D	0.003	No	—	—	—
10. I-405 Southbound Off-Ramp at Spring Street	AM	0.732	C	0.866	D	0.871	D	0.005	No	No	—	—
	PM	0.719	C	0.852	D	0.857	D	0.005	No	No	—	—
11. Orange Avenue at 29th Street	AM	13.9 s/v	B	16.8 s/v	C	17.3 s/v	C	—	No	—	—	—
	PM	14.1 s/v	B	17.7 s/v	C	18.0 s/v	C	—	No	—	—	—
12. California Avenue at Willow Street	AM	0.613	B	0.725	C	0.725	C	0.000	No	—	—	—
	PM	0.593	A	0.704	C	0.704	C	0.000	No	—	—	—
13. Orange Avenue at Willow Street	AM	0.736	C	**0.911**	**E**	**0.921**	**E**	**0.010**	No	—	—	—
	PM	0.845	D	**1.048**	**F**	**1.056**	**F**	**0.008**	No	—	—	—
14. Walnut Avenue at Willow Street	AM	0.510	A	0.602	B	0.604	B	0.002	No	—	—	—
	PM	0.671	B	0.741	C	0.743	C	0.002	No	—	—	—

Table 3.5-7. Year 2038 Buildout Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary without Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2038 Buildout Traffic Conditions		Year 2038 Buildout Plus Project Traffic Conditions		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2038 Buildout Plus Project Traffic Conditions with Mitigation	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
15. Cherry Avenue at Willow Street	AM	0.687	B	0.823	D	0.825	D	0.002	No	—	—	—
	PM	0.818	D	**0.996**	**E**	**0.998**	**E**	0.002	No	—	—	—

Source: *Spring Street Traffic Impact Analysis* (Appendix E)

Notes:

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

** Improvements identified in the footnote of Table 8-5 in the *Spring Street Traffic Impact Analysis* (Appendix E) have been applied to achieve the acceptable LOS and are included in **Mitigation Measure TRAN-2**.

Bold text indicates an unacceptable LOS.

Caltrans=California Department of Transportation; HCM=highway congestion manual; I-405=Interstate 405; ICU=Intersection change utilization; LOS=level of service; s/v=seconds per vehicle (delay)

Table 3.5-8. Year 2021 Cumulative Peak Hour Intersection Capacity and Caltrans Analysis Summary with Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2021 Cumulative Traffic Conditions		Year 2021 Cumulative Plus Project		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2021 Cumulative Plus Project Traffic Conditions with Mitigation	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
3. Orange Avenue at I-405 Southbound Ramps	AM	**44.0 s/v**	**E**	**111.4 s/v**	**F**	**122.5 s/v**	**F**	—	No*	**Yes**	30.6 s/v	C
	PM	**90.6 s/v**	**F**	**301.5 s/v**	**F**	**343.1 s/v**	**F**	—	No	No	18.4 s/v	B
7. Orange Avenue at Spring Street	AM	0.826	D	**0.974**	**E**	**1.011**	**F**	**0.037**	**Yes**	—	**0.926**	**E**
	PM	0.833	D	**0.996**	**E**	**1.030**	**F**	**0.034**	**Yes**	—	**0.989**	**E**
13. Orange Avenue at Willow Street	AM	0.736	C	0.855	D	0.866	D	0.011	No	—	—	—
	PM	0.845	D	**0.950**	**E**	**0.961**	**E**	0.011	No	—	—	—

Source: *Spring Street Traffic Impact Analysis* (Appendix E)

Notes:

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

Bold text indicates an unacceptable LOS.

Caltrans=California Department of Transportation; HCM=highway congestion manual; I-405=Interstate 405; ICU=Intersection change utilization; LOS=level of service; s/v=seconds per vehicle (delay)

Table 3.5-9. Year 2038 Buildout Plus Project Peak Hour Intersection Capacity and Caltrans Analysis Summary with Road Diet

Intersection	Time Period	Existing Conditions LOS		Year 2038 Buildout Traffic Conditions		Year 2038 Buildout Plus Project Traffic Conditions		Significant Impact (City Criteria)?		Significant Impact (Caltrans Criteria)?	Year 2038 Buildout Plus Project Traffic Conditions with Mitigation	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Yes/No	ICU/HCM	LOS
3. Orange Avenue at I-405 Southbound Ramps	AM	**44.0 s/v**	**E**	**294.8 s/v**	**F**	**322.3 s/v**	**F**	—	No*	**Yes**	49.4 s/v	D
	PM	**90.6 s/v**	**F**	**724.1 s/v**	**F**	**808.6 s/v**	**F**	—	No	No	25.6 s/v	C
7. Orange Avenue at Spring Street	AM	0.826	D	**1.112**	**F**	**1.149**	**F**	**0.037**	**Yes**	—	**1.049**	**F**
	PM	0.833	D	**1.138**	**F**	**1.170**	**F**	**0.032**	**Yes**	—	**1.124**	**F**
13. Orange Avenue at Willow Street	AM	0736	C	**0.971**	**E**	**0.982**	**E**	0.011	No	—	—	—
	PM	0845	D	**1.083**	**F**	**1.095**	**F**	0.012	No	—	—	—

Source: *Spring Street Traffic Impact Analysis* (Appendix E)

Notes:

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

Bold text indicates an unacceptable LOS.

Caltrans=California Department of Transportation; HCM=highway congestion manual; I-405=Interstate 405; ICU=Intersection change utilization; LOS=level of service; s/v=seconds per vehicle (delay)

Cumulative Impacts

The project's traffic impacts and cumulative impacts are included in Table 3.5-6, Table 3.5-7, Table 3.5-8, and Table 3.5-9. The TIA analyzed the peak hour intersection capacity for multiple cumulative impact scenarios, including:

- Year 2021 Cumulative Traffic Conditions and Year 2021 Cumulative Plus Project Traffic Conditions, without road diet and with road diet
- Year 2038 Buildout Traffic Conditions and Year 2038 Buildout Plus Project Traffic Conditions, without road diet and with road diet

As discussed above, the project would result in significant and unavoidable impacts on two intersections (Orange Avenue/32nd Street and Orange Avenue/Spring Street) under multiple scenarios.

- **Year 2021 Cumulative Traffic Conditions plus Project Traffic Conditions without Road Diet** – Two intersections (Orange Avenue/32nd Street and Orange Avenue/Spring Street) would result in significant impacts; however, implementation of **Mitigation Measures TRAN-1 and TRAN-2** would reduce these impacts, as shown in Table 3.5-6. Implementation of **Mitigation Measure TRAN-2** would result in a less than significant impact at the intersection of Orange Avenue and Spring Street. However, the City of Signal Hill has jurisdiction over the intersection of Orange Avenue and 32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.
- **Year 2021 Cumulative Traffic Conditions plus Project Traffic Conditions with Road Diet** – The intersection of Orange Avenue and Spring Street would result in significant impacts. Implementation of **Mitigation Measure TRAN-3** would reduce the LOS at Orange Avenue and Spring Street from LOS F to LOS E, as shown in Table 3.5-8. This impact would remain significant because the intersection would deteriorate from LOS D to LOS E, which is considered a significant impact under the City of Long Beach and City of Signal Hill criteria.
- **Year 2038 Buildout plus Project Traffic Conditions without Road Diet** – Two intersections (Orange Avenue/32nd Street and Orange Avenue/Spring Street) would result in significant impacts. Implementation of **Mitigation Measures TRAN-1 and TRAN-2** would reduce these impacts, as shown in Table 3.5-7. Implementation of **Mitigation Measure TRAN-2** would result in a less than significant impact at the intersection of Orange Avenue and Spring Street. However, the City of Signal Hill has jurisdiction over the intersection of Orange Avenue and

32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

- **Year 2038 Buildout plus Project Traffic Conditions with Road Diet** – Orange Avenue and Spring Street would result in significant impacts. Implementation of **Mitigation Measure TRAN-3** would reduce the ICU value at Orange Avenue and Spring Street, as shown in Table 3.5-9; however, the LOS would remain at an adverse LOS of F. This impact would remain significant because the intersection would deteriorate from LOS D to LOS F, which is considered a significant impact under the City of Long Beach and City of Signal Hill criteria.

Additionally, the Caltrans jurisdictional intersection of Orange Avenue/I-405 Southbound Ramps would result in significant impact under Year 2021 Cumulative with Road Diet and without Road Diet and Year 2038 Buildout with Road Diet and without Road Diet. Implementation of **Mitigation Measures TRAN-4 and TRAN-5** would reduce these impacts, as shown in Table 3.5-6, Table 3.5-7, Table 3.5-8, and Table 3.5-9. However, Caltrans has jurisdiction over the Orange Avenue and I-405 Southbound Ramps intersection. Caltrans does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and I-405 Southbound Ramps. Due to the fact that **Mitigation Measures TRAN-4 and TRAN-5** are subject to approval by and are the responsibility of another agency (Caltrans) and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, these mitigation measures are potentially infeasible pursuant to CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, impacts ~~are considered~~remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Mitigation Measures

CEQA Guidelines Section 15126.4(a)(5) states that if the lead agency determines that a mitigation measure cannot be legally imposed, the measure need not be proposed or analyzed. **Mitigation Measures TRAN-1, TRAN-4, and TRAN-5** are potentially infeasible because they are subject to approval by and are the responsibility of another agency and not the City of Long Beach. ~~If the agency~~

~~responsible for approval, determines the measures are infeasible, then the measures would not be imposed by the City of Long Beach.~~Because **Mitigation Measures TRAN-1, TRAN-4, and TRAN-5** are within the responsibility and jurisdiction of another agency, they are potentially infeasible pursuant to CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). If Caltrans and/or the City of Signal Hill approves and permits the work required by these mitigation measures, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

TRAN-1 **Orange Avenue at 32nd Street without Orange Avenue Bikeway Improvements.** Restripe the northbound approach for an exclusive right-turn lane. Modify the existing traffic signal as necessary. These improvements are subject to approval by the City of Signal Hill.

TRAN-2 **Orange Avenue at Spring Street without Orange Avenue Bikeway Improvements.** Restripe the northbound approach to provide dual left-turn lanes, a through lane, and a shared through-right turn lane. Restripe the southbound right-turn lane into a shared through-right turn lane. Modify the traffic signal from a two phase signal to a five phase signal, with protected north-south left turn lands. Construct dual southbound left-turn lanes. These improvements are subject to the approval of the City of Long Beach and the City of Signal Hill.

TRAN-3 **Orange Avenue at Spring Street with Orange Avenue Bikeway Improvements.** Construct an exclusive right-turn lane for the northbound and southbound approaches. Modify the existing traffic signal as necessary. These improvements are subject to approval of the City of Long Beach and the City of Signal Hill and will need to consider the City of Long Beach's planned Class IV (Protected Bike Lane) bikeway design/layout for this intersection.

TRAN-4 **Orange Avenue at I-405 Southbound Ramps without Orange Avenue Bikeway Improvements.** Install a three-phase traffic signal; maintain existing intersection lane configuration. These improvements are subject to the approval of Caltrans.

TRAN-5 **Orange Avenue at I-405 Southbound Ramps with Orange Avenue Bikeway Improvements.** Install a three-phase traffic signal. Remove one through lane from the northbound and southbound directions on Orange Avenue. With implementations of improvements associated with the Orange Avenue Class IV Bikeway, the section of Orange Avenue, from 32nd Street south of Spring Street, would be striped as a two-lane divided roadway, with on-street bike lanes and a buffer to separate bicycle traffic from vehicular traffic. These improvements are subject to the approval of Caltrans.

Level of Significance after Mitigation

Implementation of **Mitigation Measures TRAN-2 and TRAN-3** would reduce impacts to less than significant under several scenarios. However, impacts would remain significant and unavoidable at the following intersections with the implementation of **Mitigation Measures TRAN-1, TRAN-4, and TRAN-5**:

- **Orange Avenue and Spring Street** – During AM and PM peak hours under 2021 Cumulative Plus Project with Road Diet and AM and PM peak hours under 2038 Buildout Plus Project with Road Diet. The LOS would deteriorate from LOS D to LOS E or F with mitigation implemented,

which is considered a significant impact under the City of Long Beach and City of Signal Hill criteria.

- **Orange Avenue and 32nd Street** – During PM peak hours under 2021 Cumulative Plus Project without Road Diet and PM peak hours under 2038 Buildout Plus Project without Road Diet. **Mitigation Measure TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, which has jurisdiction over the intersection of Orange Avenue and 32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach and as such, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~and~~ the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

- **Orange Avenue and I-405 Southbound Ramps** – During Year 2021 Cumulative with Road Diet and without Road Diet and Year 2038 Buildout with Road Diet and without Road Diet. **Mitigation Measures TRAN-4 and TRAN-5** are the responsibility of and are subject to approval by Caltrans, which has jurisdiction over the Orange Avenue and I-405 Southbound Ramps intersection. Caltrans does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and I-405 Southbound Ramps. Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, and **Mitigation Measures TRAN-4 and TRAN-5** are potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~these~~ impacts ~~are considered~~ remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

4 Other CEQA Considerations

4.1 Growth-Inducing Impacts

Discussion of growth-inducing impacts is required by the CEQA Guidelines Section 15126.2(d). Growth inducement refers to the "ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." This typically includes projects that will remove obstacles to population growth, for example, as a result of the provision of public services to undeveloped areas. It must not be assumed that growth in any area is necessarily beneficial or detrimental in its effect on the environment, or that it has an insignificant effect. Each project must be evaluated on its own merit.

The project consists of a 160,673 SF business park/warehouse complex. The project would not introduce a new residential population to the area, and long-term (i.e., operational) employment opportunities generated by the project would be limited to approximately 45 employees, of which would likely be filled by people already residing in the general vicinity. However, if all employees were new to the area, this would not generate a significant population growth in the area. The project would also generate temporary construction jobs. The short-term nature of the construction jobs is not anticipated to lead to long-term population growth in the region as there is generally an existing workforce available in the Long Beach area and surrounding region. Based on these considerations, the project would not lead to significant long-term population growth in the region.

4.2 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires an EIR to address any significant irreversible environmental changes that may occur as a result of project implementation. Development of the proposed project would result in the consumption of nonrenewable energy resources, which would have a significant irreversible effect on such resources. The project site was previously developed with a natural gas processing and compression plant that operated onsite from the 1920s through 2000. The plant was not operating from 2000 to 2007 and all plant operations were removed by 2007, leaving the site vacant. The proposed project would result in the development of the site for a business park/warehouse complex. The proposed project represents a continued commitment of land to urban uses, which intensifies land use on the project site. Once developed, reverting to a less urban use is highly unlikely. Development of the project site would constrain future land use options.

Several irreversible commitments of limited resources would result from implementation of the proposed project. The resources include but are not limited to the following: lumber and other forest products; sand, gravel, and concrete; asphalt; petrochemical construction materials; steel, copper, and other metals; and water consumption.

4.3 Significant and Unavoidable Environmental Impacts

Section 15216.2(b) of the CEQA Guidelines requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the project is implemented. Sections 3.1 through 3.5 of this EIR provide a detailed analysis of all significant environmental impacts related to the project; identifies feasible mitigation measures, where available, that could avoid or reduce these significant impacts; and presents a determination whether these mitigation measures would reduce these

impacts to a level less than significant. Sections 3.1 through 3.5 of this EIR also identify the significant cumulative impacts resulting from the combined impacts of the project and related projects considered in cumulative analysis. If a specific impact in any of these sections cannot be fully reduced to a less than significant level, it is considered a significant and unavoidable impact. Implementation of the proposed project would result in significant and unavoidable impacts for transportation at the following intersections:

- The intersection of Spring Street and Orange Avenue would deteriorate from LOS D to LOS E or F with mitigation during AM and PM peak hours under 2021 Cumulative plus project with road diet and AM and PM peak hours under 2038 Buildout plus project with road diet. The deterioration from an acceptable LOS (A through D) to an unacceptable LOS (E or F) is considered a significant impact under the City of Long Beach and City of Signal Hill criteria.
- The intersection of Orange Avenue and 32nd Street would result in a significant and unavoidable impact because the City of Signal Hill has jurisdiction over the intersection of Orange Avenue and 32nd Street. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and 32nd Street. Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, and the impact at Orange Avenue and 32nd Street during PM peak hours is considered significant and unavoidable.
- The intersection of Orange Avenue and I-405 Southbound Ramps would result in a significant and unavoidable impact because Caltrans has jurisdiction over the Orange Avenue and I-405 Southbound Ramps intersection. Caltrans does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and I-405 Southbound Ramps. Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, and these impacts are considered significant and unavoidable

4.4 Effects Mitigated in the Initial Study

It was determined during preparation of the IS (Appendix A) that several environmental topics had a sufficient analysis in the IS and were identified to be less than significant with mitigation. This subsection summarizes the IS impact discussion and how the proposed mitigation measures would reduce potential significant impacts to less than significant.

4.4.1 Biological Resources

As discussed in the IS, Table IV. Biological Resources: Environmental Issue Area a), the project site is disturbed and surrounded by commercial and industrial uses. The project site supports a variety of ornamental shrubs that provide suitable nesting habitat for avian species protected by the Migratory Bird Species Act (16 U.S. Code 703-712). Take of an active nest would be a significant impact. With implementation of **Mitigation Measure BIO-1**, the potential impact would be reduced to a level less

than significant. The project site does not provide suitable habitat for any other candidate, sensitive, or special-status species.

4.4.2 Cultural Resources

As discussed in the IS, Table V. Cultural Resources: Environmental Issue Area a), b), and c), the project site is a vacant dirt lot that has previously been heavily disturbed. Southern California is home to a number of Native American tribes, with Gabrieleno groups having occupied the Long Beach area prior to the arrival of Europeans. The project area was subject to extensive development related to both oil and gas extraction and urban growth over the last century. The project site previously contained a historic building, the Lomita Gas Company; however, the historic compressor house was completely removed between 2010 and 2012. No historic buildings or structures remain onsite, and the pedestrian archeological survey conducted found no cultural resources on the project site. However, during ground disturbing activities, the inadvertent discovery of cultural materials or human remains could result in a significant impact if not properly managed. Implementation of **Mitigation Measures CULT-1, CULT-2, and CULT-3** are proposed to reduce potential impacts to a less than significant level.

4.4.3 Hydrology and Water Quality

As discussed in the IS, Table X. Hydrology and Water Quality: Environmental Issue Area a), construction related activities, such as site preparation, grading, and paving associated with the project would occur and could result in temporary soil erosion that could subsequently degrade water quality. During a storm event, soil erosion could occur at an accelerated rate. Additionally, construction related pollutants, such as chemicals, petroleum products, and concrete-related waste could leak, spill, or be transported via storm runoff into drainages. This is considered a significant impact.

During construction, the project would disturb more than 1 acre of soil; therefore, the project would be required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which requires the preparation of a Storm Water Pollution Prevention Plan and implementation of construction BMPs. Additionally, the project would comply with all requirements of the LBMC related to stormwater management, the city's Stormwater Management Plan, and the city's *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (City of Long Beach Municipal Separate Storm Sewer System [MS4] Permit) (California Regional Water Quality Control Board 2014). Due to the increase in impervious surfaces, the project would be required to implement post-construction BMPs to mitigate stormwater pollution during operation and prepare a Low Impact Development (LID) Plan, or equivalent, in compliance with the *City of Long Beach LID BMP Design Manual* (Long Beach Development Services 2013).

Implementation of **Mitigation Measure HWQ-1** would require compliance with NPDES requirements and local regulations and is proposed to reduce potential impacts to a less than significant level.

4.4.4 Tribal Cultural Resources

As discussed in the IS, Table XVIII. Tribal Cultural Resources: Environmental Issue Area a) and b), in response to an Assembly Bill (AB) 52 consultation letter, a response letter was received from Andrew Salas of the Gabrieleno Band of Mission Indians. The consultation concluded that **Mitigation Measures TCR-1 and TCR-2** would be required to reduce impacts on tribal cultural resources to a level less than significant.

4.5 Effects Found Not to be Significant

In accordance with Section 15128 of the CEQA Guidelines, an EIR must contain a statement briefly indicating the reasons that various potential significant impacts of a project were determined not to be significant. The City of Long Beach has determined that the proposed project would not have the potential to cause significant impacts associated with the resource issue areas identified below.

4.5.1 Aesthetics

The *City of Long Beach General Plan, Scenic Routes Element* (City of Long Beach 1975b) identifies areas within the city that are considered scenic assets, of which there are none identified within the project area. The project site is not within a state scenic highway; therefore, the project would not damage any scenic resources, including trees, rock outcroppings, or historic buildings (Caltrans 2011).

The project is located in an urbanized area. The project site is vacant, surrounded by commercial, residential, parks, and industrial areas. The project proposes a business park/warehouse complex with off-site improvements. Although the project would introduce new elements to the site, these elements would not degrade the visual quality or substantially change the visual character of the project area. The project would be consistent with adjacent land uses, zoning requirements, and existing visual character of the area.

The General Plan placetype for the project site is Neo-Industrial, and the project site is zoned IM, which allows a wide range of industries, including office and commercial uses. LBMC Section 21.33.090 regulates development standards in industrial districts to govern the scenic quality based on lot size, lot coverage, building and structure height, setbacks, landscaping requirements, signs, and other built-environment standards that affect the scenic quality of an urbanized area. The project, as designed, complies with applicable development standards for IM zone. Additionally, the proposed off-site improvements are consistent with the Willow Springs Park Master Plan, which calls for revitalizing the Willow Springs Park property and would improve the scenic quality in the area.

The project site is currently vacant and is surrounded by an urbanized environment, with nighttime lighting. The project involves the development of three new buildings for new industrial with accessory office uses, as well as off-site street improvements. Light and glare from the proposed buildings would be similar to the light and glare currently produced from the existing residential, commercial, and manufacturing uses. The project would be required to comply with the lighting requirements for parking of the LBMC, including Section 21.41.259, which requires all light introduced by the project to be directed and shielded and to not create a new source of substantial light or glare. The project would not create a new source of light or glare that would adversely affect day or nighttime views in the area.

Therefore, the project would have a less than significant impact on aesthetic resources.

4.5.2 Agriculture and Forestry Resources

The project site is vacant and is surrounded by commercial, residential, parks, and industrial areas where agricultural operations are not feasible. The project site is not mapped as a prime, unique, or farmland of statewide importance according to the Farmland Mapping and Monitoring Program (California Department of Conservation 2016b). No farmland is present that could be converted. Additionally, the project site is not zoned for agriculture and is not under a Williamson Act contract (California Department of Conservation 2017). The project site is not zoned for forest use or timberland production (City of Long Beach 2018). Therefore, the project would have no impact on agriculture and forestry resources.

4.5.3 Air Quality

Threshold (d) - Odors

Construction of the project could result in the emission of odors from construction equipment and vehicles (e.g., diesel exhaust). It is anticipated that these odors would be short term, limited in extent at any given time, and distributed throughout the project site during construction, and, therefore, would not affect a substantial number of individuals. Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies (CARB 2005). The proposed project does not propose operation of these land uses.

Therefore, the project would have a less than significant impact on Air Quality threshold (d).

4.5.4 Biological Resources

Thresholds (b) Riparian habitat, (c) Wetlands, (d) Wildlife Corridors, (e) Local Policies, and (f) Conservation Plans

The project site consists of a vacant lot surrounded by urban development. A desktop analysis, including database searches of California Department of Fish and Wildlife's California Natural Diversity Database and U.S. Fish and Wildlife Service's Information for Planning and Consultation database, was conducted for the project site. The project site supports no native habitat and does not provide suitable habitat for any other candidate-, sensitive-, or special-status species. The project site does not contain riparian habitat or sensitive natural communities. There are no state or federally protected wetlands in the project vicinity. The project site does not provide any nursery habitat and is situated in an urban area enclosed by fencing; therefore, it provides no wildlife movement function. The conversion of the project to a business park/warehouse complex does not impact wildlife movement.

The project site does not provide significant biological resource value identified for conservation and is not located within the Local Coastal Program Planning Areas (City of Long Beach 1973 and 1980, respectively). The proposed project is consistent with both the Conservation and Local Coastal Program elements of the General Plan. The project site does not support trees subject to city ordinance. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plans in the City of Long Beach; therefore, the project would not conflict with any such plans.

The project would have no impact on riparian habitat (threshold (b)), wetlands (threshold (c)), wildlife corridors (threshold (d)), and would not conflict with any local policies or ordinances protecting biological resources (threshold (e)) or conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan (threshold (f)).

4.5.5 Energy

Construction activities would consume electricity and fossil fuels and would not require consumption of natural gas. The use of construction vehicles and equipment would consume fossil fuels, such as diesel, gasoline, and oil. Water consumption during construction activities would indirectly consume electricity. When not in use, electric equipment would be shut off to avoid unnecessary consumption of electricity. Energy consumption during construction would be temporary and would cease upon

completion of construction activities. Therefore, construction would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

Operation of the business park/warehouse would involve consumption of electricity, natural gas, and fossil fuels related to automobile use. During ongoing operation of the project, the project would consume electricity in the form of building energy use, outdoor electricity use, and electricity consumption related to indoor and outdoor water consumption. The project would comply with building energy efficiency standards, including the 2016 Building Energy Efficiency Standards (CCR, Title 24, Part 6) and California Green Building Standards Code (CCR, Title 24, Part 11). The buildings would include solar-ready roofs that can be equipped with solar panels, and the project would provide eight electric vehicle parking spaces. Therefore, project operation would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

The project would not conflict with a state or local plan for renewable energy or energy efficiency by complying with the LBMC Section 21.45.400 "Green building standards for public and private development" requirements that the following type of project shall meet the intent of the U.S. Green Building Council's Leadership in Energy and Environmental Design certification. Additionally, the project would voluntarily comply with the City of Long Beach's Climate Action and Adaptation Plan that are under development, as well as the mandatory green building standards, stated above. Therefore, the project would not conflict with, or obstruct, a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

4.5.6 Geology and Soils

Threshold (a.i.) Earthquake Faults, (a.iv.) Landslides, (b) Soil Erosion, (e) Alternative Wastewater Disposal, (f) Paleontological Resources

There are no known active or potentially active faults that have been mapped at the site, and the site is not located within a State of California EFZ (formerly known as an Alquist-Priolo Special Studies Zone). The project site is outside of a landslide zone (CGS 1998). Due to the relatively flat topography of the existing and proposed conditions, landslide risk is considered low. Additionally, due to the lack of exposed slopes, the risk of substantial erosion or loss of topsoil is considered low.

An alternative wastewater disposal system is not proposed as part of the project. The project would be connected to the Long Beach Water Department's sanitary sewer system and would not require the use of septic tanks or alternative wastewater disposal. No impact is identified for this issue area.

Review of the CGS map of the region (Saucedo et al. 2016) and field observations indicate that sediment in the project site consists of artificial fill underlain by Qom (old shallow marine deposits on wave-cut surface, undivided [late to middle Pleistocene]). These poorly consolidated marine deposits are composed mostly of fine- to coarse-grained sand and may locally carry common late Pleistocene molluscan fauna (Addicott 1964). Following Caltrans' (Caltrans 2017) paleontological sensitivity scale, these units are considered to have low potential to contain significant vertebrate, significant invertebrate, or significant plant fossils. Rock units designated as having low potential generally do not require monitoring and mitigation. Based on review of previous studies (e.g., DeLong 1939; Smith 2013), the project would not impact any unique paleontological resources or unique geologic features. No impact on unique paleontological resources or sites or geologic features is identified.

The project would result in no impacts from earthquake faults (threshold (a.i.)), landslides (threshold (a.iv.)), soil erosion (threshold (b)), alternative wastewater disposal (threshold (e)), and paleontological resources (threshold (f)).

4.5.7 Greenhouse Gas Emissions

Threshold (b) – Conflict with Applicable Regulations

As discussed in Section 4.5.5, Energy, the project is in compliance with the LBMC Section 21.454.400 and the proposed Climate Action and Adaptation Plan. Therefore, the project does not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHG. This impact is considered less than significant.

4.5.8 Hazards and Hazardous Materials

The project would involve the construction of a business park/warehouse complex and off-site improvements, which do not typically use or store large quantities of hazardous materials. During construction, the use of potentially hazardous materials such as fuels, lubricants, and solvents would occur. However, the transport, use, and storage of hazardous materials would be conducted in accordance with all applicable state and federal laws. Pursuant to LBMC Section 21.33.090, the project would be required to ensure that any materials or wastes that could cause fumes, dust, create fire hazards, or may be edible/attractive to rodents or insects would be kept outdoors in closed containers approved by the Director of Planning and Building. Adherence to these requirements would reduce impacts of significant hazards to the public or the environment to a less than significant level.

The project would not store large quantities of hazardous materials and is not located within 0.25 mile of a school. No impact is identified for this issue area.

As discussed in the IS, Table IX. Hazards and Hazardous Materials, Environmental Issue Area d) (Appendix A), database searches indicated there is no evidence of toxic substances, no leaking and underground storage tanks, and no clean-up programs at the project site. Impacts are considered less than significant.

The project site is located approximately 0.75 mile to the west of the Long Beach Airport. The project site is not within the airport land use planning area for the airport. The proposed business park/warehouse complex would have a maximum height of 30 feet and would not interfere with airport operations, alter air traffic patterns, or in any way conflict with established Federal Aviation Administration flight protection zones. No impact is identified for this issue area.

The project would not involve the development of structures that could potentially impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The project includes design features that would maintain access for emergency vehicles. The design features would be reviewed and approved by the Long Beach Fire Department (LBFD) to ensure that emergency access meets city standards. This is considered less than significant.

The city is an urbanized community, and there are no wild lands in the project site vicinity. There would be no risk of exposing people or structures to a significant risk of loss, injury, or death involving wild land fires. No impact is identified for this issue area.

4.5.9 Hydrology and Water Quality

Threshold (b) Groundwater, (c) Drainage, (d) Inundation, (e) Conflict with Plans

The City of Long Beach Water Department would provide water service to the project site, and the project would not deplete groundwater supplies. Groundwater depths have varied significantly over

time; however, groundwater levels have not risen to a depth of less than about 20 feet below the proposed grades. Therefore, the project would not interfere with groundwater recharge. This is considered a less than significant impact on groundwater supplies.

The project area is a heavily urbanized area and the project site was previously developed. The project is located within the Los Angeles River Watershed. As discussed above in Section 4.4.3, Hydrology and Water Quality, the project would be required to comply with NPDES requirements and local regulations, which would reduce both the amount and concentration of pollutants from the project site's runoff. Impacts on the existing drainage pattern of the project site are considered less than significant.

The project site is in a Federal Emergency Management Agency Flood Zone X, Minimal Flood Hazard, which is outside the 100-year flood plain (Federal Emergency Management Agency 2008). There are three flood control dams that lie more than 30 miles upstream from the city, including Sepulveda Basin, Hansen Basin, and Whittier Narrows Basin. In the unlikely event that these dams fail, the waters would be expected to dissipate before reaching the City of Long Beach (City of Long Beach 1975c). The project site is located in a low hazard area for tsunamis, seiches, or mudflow and would not risk release of pollutants (City of Long Beach 1975c). The project site is located approximately 3.0 miles from the coastline and 1.5 mile from the Los Angeles River. Therefore, the potential for hazards associated with direct wave action in the event of a tsunami is low. Conditions under the proposed project would be similar to the existing conditions and would not increase the potential of site inundation. This is considered a less than significant impact.

The project would comply with all requirements of LBMC related to water quality, the city's Urban Water Management Plan (UWMP; City of Long Beach 2015), the city's Stormwater Management Plan, and the city's Waste Discharge Requirements for MS4 Discharges from the City of Long Beach (City of Long Beach MS4 Permit). Due to the increase in impervious surfaces, the project would be required to implement post-construction BMPs to mitigate stormwater pollution during operation and prepare a LID Plan or equivalent, in compliance with the City of Long Beach LID BMPs Design Manual (Long Beach Development Services 2013). Impacts on the implementation of a water quality control plan or sustainable groundwater management plan would be less than significant.

4.5.10 Land Use and Planning

The project site is located between the communities of Memorial Heights in Long Beach and the City of Signal Hill, surrounded by industrial and commercial uses. The project site is currently zoned by the city as IM, a zoning district that would allow industrial, manufacturing, and related uses, with permitted uses of office and commercial uses intended to serve nearby industries and employees. The off-site improvements would help improve connectivity, and the off-site park enhancements would be consistent with the land use and development standards of IM zoning districts. Therefore, no impact would result in regards to physically dividing an established community.

There are no proposed changes to applicable land use plans, policies, or regulations. The General Plan placetype for the project site is Neo-Industrial, and the project site is zoned IM. Additionally, the proposed off-site improvements would be consistent with the Willows Springs Park Master Plan, which calls for revitalizing the Willow Springs Park property and would improve public accessibility in the area. However, the project site is located within the proposed Globemaster Corridor Specific Plan that is under preparation by the city. Adoption of the Specific Plan would update the zoning from IM to the Globemaster Corridor Specific Plan's equivalent of Light Industrial zoning. Therefore, implementation of the proposed project would not 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 and no impact would occur.

4.5.11 Mineral Resources

The project site is located on the San Gabriel Valley Production-Consumption Region but is not in an area where significant Portland Cement Concrete-Grade aggregate resources are located (an MRZ-2 area)(Kohler 2010). Additionally, there are no active mine operations in the project area (Division of Mine Reclamation 2017). Therefore, the project site does not contain significant mineral resources that would cause a loss of value to the region. No impact would be expected to mineral resources of value to the region and the residents of the state.

The city is located in Oil and Gas District 1. The Division of Oil, Gas, and Geothermal Resources well finder indicates that the project site is located in the Long Beach Oil Field. The project site does not contain any wells (California Department of Conservation 2018). The project would not require abandonment of any wells. No impact would be expected to locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

4.5.12 Noise

Threshold (c) - Airports

The project site is located approximately 0.75 mile west from the Long Beach Airport. Although located within 2 miles of the airport, based on the airport's influence area map, the project site would be located outside of the 65 dBA CNEL noise contour. Therefore, aircraft noise levels would be less than significant.

4.5.13 Population and Housing

The project would not directly impact population growth through the increase in office and parking space. Additionally, the project would not indirectly add population since the facilities would service employees from the existing community. However, if all 45 employees were new to the area, this would not result in a significant population increase. This impact is considered less than significant.

The project site is located on a vacant lot surrounded by urban and developed areas. There are no existing people or housing on the project site, and the project would not cause displacement or necessitate construction of replacement housing elsewhere. Therefore, no impact is identified for this issue area.

4.5.14 Public Services

The project site is within the jurisdiction of the LBFD, which would provide fire protection, medical, paramedic, and other first aid rescue services. The LBFD fire station nearest to the project site is Fire Station 9, located at 3917 Long Beach Boulevard, approximately 0.90 mile northwest of the project site. Additionally, the Los Angeles County Fire Department serves the City of Signal Hill, and the station nearest to the project site is Station 60, located approximately 0.70 mile southeast at 2300 East 27th Street. Prior to project approval, LBFD would be required to review and approve project activities, as well as confirm the project will be served. Applicable Fire Code requirements, California Fire Code, and the Uniform Building Code requirements would be relevant to the proposed project. The project

would not affect community fire protection services or result in the need for construction of additional fire protection facilities. This is considered a less than significant impact.

Police protection is provided by the Long Beach Police Department. The Long Beach Police Department nearest to the project site is Long Beach Police East Division, located at 3800 Willow Street, approximately 1.7 mile southeast of the project site. Although the project would increase the number of buildings and individuals onsite during daytime working hours, it would be an incremental increase that would not require additional police presence or demand onsite. Prior to project approval, the Long Beach Police Department would be required to confirm the project will be served. This is considered a less than significant impact.

The project does not include any housing that would directly add students to the Long Beach Unified School District. The applicant would be required to pay school impact fees. Pursuant to Section 65995 (b)(2) of the California Government Code (Senate Bill [SB] 50, chaptered August 27, 1998). Payment of development fees would fulfill mitigation requirements for potential project impacts under CEQA. This is considered a less than significant impact.

The closest public library branch is the Signal Hill Public Library, approximately 1 mile south east at 1780 East Hill Street. Of equal distance to the north, the Long Beach Public Library – Dana Branch, located at 3680 Atlantic Avenue, is also nearby. The project would develop a business park/warehouse complex, which would not generate a significant demand for libraries. No impact is identified to impacts on public facilities.

4.5.15 Recreation

Due to the project including off-site improvements to the Willow Springs Park, it is likely that the park would experience an increase in overall use. However, the increase of use would be related to the park being improved. The project would provide additional recreational opportunities; the project itself would not cause accelerated deterioration by introducing an increase in users to the park. Therefore, impacts are considered less than significant.

In addition, the project would include improvements to existing recreational facilities owned by the city. The facilities would not be expanded, and, therefore, would not result in adverse physical effect on the environment. Impacts are considered less than significant.

4.5.16 Transportation

Threshold (b) CEQA Guidelines Section 15064.3(b), (c) Geometric Design Features, (d) Emergency Access

CEQA Guidelines Section 15064.3, subdivision (b) provides criteria for analyzing transportation impacts. For land use projects vehicle miles travelled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within 0.50 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 impact. The project site is zoned for IM land use, which is consistent with the City of Long Beach General Plan. The project was designed to be consistent with the Mobility Element of the City of Long Beach General Plan (City of Long Beach 2013b). The Mobility Element includes policies to reduce VMT and vehicle and implementation measures to promote pedestrian, bicycle, and transit use.

A Class II Bikeway is currently in place along Spring Street, and the Mobility Element includes plans for a bicycle route along Orange Avenue. Bus route 71 runs along Orange Avenue, with a bus stop near the project site. A multimodal hub is located at Long Beach Boulevard and East 27th Street, approximately 1 mile from the project site. The Mobility Element highlights multimodal transportation, the importance of promoting a bicycle and pedestrian friendly city, and overcoming the first and last mile barrier, all with the overall intent to reduce VMT in the region. The project is consistent with provisions of the Mobility Element, as applicable to the type of use proposed, and in the context of the project location. Therefore, this land use project has a less than significant impact.

The project is located adjacent to existing roadways that do not contain sharp curves or dangerous intersections. The project does not include major modifications to the street system or any dangerous design features. The project would not result in any incompatible uses. Therefore, no impacts related to an increased hazard due to a geometric design feature or incompatible use would occur.

Project construction is anticipated to be confined onsite; however, if some construction activities are required in adjacent streets, no street closures would be required. Any lane closures would be temporary and both directions of travel on area roadways would be maintained as not to physically impair emergency access. Therefore, impacts would be less than significant.

4.5.17 Utilities and Service Systems

Generation rates based on the project uses is based on wastewater generation rates developed by the Sanitation Districts of Los Angeles County (Sanitation Districts of Los Angeles County n.d.). The proposed project would generate an estimated net total of 11,246 gallons of wastewater per day. The project would require standard utilities for supporting the facilities that would be onsite; however, the project's contribution to the wastewater capacity would be less than 0.1 percent. The increase associated with the percent of the available daily capacity would not cause the wastewater treatment limits to be exceeded. Energy consumption for operation of the project would occur but would not be large enough to trigger the construction or relocation of electric power, natural gas, or telecommunication facilities. Therefore, the project would not require or result in the relocation or construction of water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities. Impacts would be less than significant.

The project is not subject to a water supply assessment according to Water Code Section 10912. According to the City of Long Beach's 2015 UWMP (City of Long Beach 2015), the total citywide water demand for 2015 was 55,206 acre feet and would increase by 3,900 acre feet in 2040. The UWMP identifies water supply as adequate to meet these needs. As a business park/warehouse complex with approximately 45 employees, the project is anticipated to have minimal water demand. Due to the project's incremental contribution to the future demand, new sources of water supply would not be required to meet the anticipated project water needs. Additionally, all developer-funded projects with the Long Beach Water Department require a developer to enter into an agreement with the Board of Water Commissioners of the City of Long Beach. Therefore, this is considered a less than significant impact.

California Department of Resources Recycling and Recovery maintains a waste characterization list of waste generation rates. The most recent information for employee disposal rates indicates a waste generation rate of 11.9 pounds of waste per employee, per day (California Department of Resources Recycling and Recovery 2019). Based on this rate, the 45 employees would generate 535 pounds of solid waste per day. This increase would be within the capacity of Scholl Canyon Landfill, which currently receives 1,400 tons per day, with 2,000 tons per day of capacity available (City of Glendale

2014). Based on the disposal capacity of landfills serving the project site, this incremental increase in solid waste generation would not affect the availability of solid waste disposal capacity. This is considered a less than significant impact.

Construction debris would be generated and disposed of in accordance with all federal, state, and local requirements for solid waste disposal. Therefore, no impact is identified for this issue area.

4.5.18 Wildfire

The California Department of Forestry and Fire Protection (CAL FIRE) is required to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Fire Hazard Severity Zones are used to guide appropriate construction of buildings to reduce the risk associated with wildland fires. These zones are developed based on several factors, including fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area. Zones are classified as moderate, high, and very high (CAL FIRE 2011). The project site is not located in a Very High Fire Hazard Severity Zone, as recommended by CAL FIRE. Therefore, no impact is identified for issues regarding wildfires.

5 Alternatives

5.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. CEQA requires the consideration of alternative development scenarios and an analysis of the potential impacts associated with those alternatives. Through comparison of these alternatives to the proposed project, the advantages of each can be weighed and analyzed. Section 15126.6(a) of the CEQA Guidelines requires that an EIR "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

Additionally, Sections 15126.6(e) and (f) of the CEQA Guidelines state:

- The specific alternative of "no project" shall also be evaluated, along with its impact. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.
- The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project. Of those alternatives, the EIR needs to examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the proposed project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

Pursuant to the CEQA Guidelines stated above, a range of alternatives to the proposed project is considered and evaluated in this EIR. The discussion in the chapter provides:

- A description of alternatives considered
- An analysis of whether the alternatives meet most of the objectives of the proposed project
- A comparative analysis of the alternatives under consideration and the proposed project, which will determine if the alternatives are capable of eliminating or reducing the significant environmental effects of the proposed project

5.2 Criteria for Alternatives Analysis

The potential alternatives were evaluated in terms of their ability to meet the basic project objectives, while reducing or avoiding the environmental impacts of the proposed project identified in Chapter 3, Environmental Impact Analysis, of this EIR. As discussed in Chapter 2 of this EIR, the project's objectives are as follows:

- Provide an industrial and office development project consistent with the site's land use regulations that maximizes the development potential of the site
- Provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities

- Provide a modern, urban development site in place of the existing vacant site, which was previously a natural gas processing and compression plant
- Provide an economically-viable development program for the property
- Increase the City of Long Beach's professional industrial and office inventory, which would accommodate additional employment within the city
- Maintain consistency with the City of Long Beach General Plan and zoning ordinances
- Provide needed infrastructure improvements, including roadway, sidewalk, and park improvements, which would correct existing public infrastructure deficiencies

5.3 Alternatives Considered but Rejected

In addition to specifying that the EIR evaluate "a range of reasonable alternatives" to the project, Section 15126.6(c) of the CEQA Guidelines requires that an EIR identify any alternatives that were considered but were rejected as infeasible.

5.3.1 Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant impacts of the proposed project would be avoided or substantially lessened by putting the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant impacts of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). An alternative site location for this project was rejected because the site is owned by the project proponent, and the project proponent does not own any additional sites within the city that could accommodate the proposed project.

5.4 Evaluation of Alternatives

5.4.1 Alternative 1: No Project/No Development Alternative

CEQA Guidelines require analysis of the No Project Alternative. According to Section 15126.6(e), "the specific alternative of 'no project' shall also be evaluated, along with its impacts. The 'no project' analysis shall discuss the existing conditions at the time the NOP is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project was not approved, based on current plans and consistent with available infrastructure and community services."

The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project, and the project site would remain in its current condition and current uses. The site is currently vacant and previously disturbed.

Air Quality

This alternative would result in no increase of emissions of criteria air pollutants, as no construction or development would occur. This alternative would not result in the generation of additional criteria pollutant emissions; therefore, operational emissions would be less than the proposed project. This alternative would avoid a potential significant impact from fugitive dust.

Geology and Soils

This alternative would avoid any potential impacts related to geology and soils, as no new development would occur on the project site. This alternative would avoid the potential impacts associated with developing structures within 600 feet of an EFZ, on liquefiable soil, and on expansive soils.

Greenhouse Gas Emissions

Under this alternative, no GHG impacts would occur, as no new emissions would occur. Implementation of this alternative would not avoid a significant GHG impact associated with the proposed project, as no significant GHG impact has been identified.

Noise

This alternative would avoid potential construction and operational noise and vibration impacts associated with the proposed project, as no new industrial development would be introduced to the project site. This alternative would avoid the potential temporary construction noise that would result from development of the business park/warehouse complex. However, implementation of this alternative would not avoid a significant operational noise impact associated with the proposed project, as no significant operational noise impact has been identified.

Transportation

This alternative would avoid any significant increases in traffic, as no new development would occur onsite. The alternative would avoid a significant and unavoidable impact at the intersections of Orange Avenue and Spring Street, Orange Avenue and 32nd Street, and Orange Avenue and I-405 Southbound Ramps.

Conclusion

Under this alternative, all the impacts associated with implementation of the proposed project would be avoided, including impacts on air quality, geology and soils, and noise. In addition, the project's significant and unavoidable traffic impact would be avoided. This alternative would not result in impact on the remaining issue areas. However, as shown in Table 5.4-1, implementation of this alternative would not meet any of the basic objectives of the project.

Table 5.4-1. Attainment of Project Objectives – No Project/No Development Alternative

Project Objective	Does No Project/No Development Alternative Meet Project Objectives?
Provide an industrial and office development project consistent with the site's land use that maximizes the development potential of the site	**No**. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project. No industrial or office development would be developed.
Provide an industrial and office development project that is compatible and complementary with the existing, surrounding, and adjacent land uses and facilities	**No**. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project. No industrial or office development would be developed.
Provide a modern, urban development site in place of vacant site, which was previously a natural gas processing and compression plant	**No**. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project. The project site would remain vacant.
Provide an economically-viable development program for the property	**No**. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project. No economically-viable development program would be created.
Increase the City of Long Beach's professional, industrial, and office inventory, which would accommodate additional employment within the city	**No**. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project. No additional employment would be created.
Maintain consistency with the City of Long Beach General Plan and zoning ordinances	**No**. The No Project/No Development Alternative would not develop industrial land uses for the project site for which the site is currently zoned.
Provide needed infrastructure improvements including roadway, sidewalk, and park improvements, which would correct existing public infrastructure deficiencies	**No**. The No Project/No Development Alternative assumes that the project site would not be developed with the proposed project, which includes infrastructure improvements to the roadway, sidewalk, and park. Existing public infrastructure deficiencies would remain.

5.4.2 Alternative 2: Reduced Project

The Reduced Project Alternative proposes two buildings on the project site. The Reduced Project Alternative would include development of 2 new concrete "tilt-up" buildings for new industrial, with accessory office uses, for total of 88,557 SF of floor area. The 2 buildings vary in size and each include mezzanine space, and 25 percent of the square footage of each building is office area. Building 1 would be 39,812 SF, inclusive of 3,000 SF of mezzanine, and allow up to 9,953 SF of office area. Building 2 would be 48,745 SF, inclusive of 3,000 SF of mezzanine, and allow up to 12,186 SF of office area. The buildings would be 28 feet in height.

Vehicular access to the project site would be provided via new driveways along Spring Street and Orange Avenue. A total of 89 auto parking spaces would be provided, including 4 Americans with Disabilities Act accessible, 2 van accessible, 6 clean air vehicle, and 4 electric vehicle charging stations. Additionally, 5 trailer parking spaces would be provided.

Off-site street improvements and off-site park improvements would be the same as described for the proposed project.

Air Quality

As with the proposed project, implementation of this alternative would result in an increase in air emissions. Construction of the Reduced Project Alternative would require the same construction phases and the same construction equipment; however, the equipment would be used for a shorter duration. Similar to the proposed project, the Reduced Project Alternative would not result in an exceedance of SCAQMD thresholds for short-term construction related emissions or long-term operation of the project. The potential for fugitive dust remains significant and implementation of **Mitigation Measure AQ-1** would be required to reduce potential impact to less than significant.

Similar to the proposed project, the Reduced Project Alternative would have potential long-term operational air quality impacts from mobile source emissions associated with project-related vehicular trips and stationary source emissions from on-site energy consumption; however, the emissions rates for on-site operational activities would not exceed the LSTs.

Geology and Soils

Implementation of this alternative would result in similar impacts related to geology and soils as the proposed project, as the project site would be graded to accommodate development, and new buildings would be located on the project site. Similar to the proposed project, the project site would be within 600 feet of an EFZ and the project site contains liquefiable and expansive soils. Potential significant impacts from building structures on liquefiable and expansive soil and in close proximity to an EFZ would remain significant, and implementation of **Mitigation Measure GEO-1** would be required to reduce potential significant impacts to less than significant.

Greenhouse Gas Emissions

Implementation of this alternative would not avoid or reduce a potential GHG impact, as no significant impact related to this environmental issue has been identified. GHG emissions would be generated during construction of this alternative. Additionally, operation of this alternative would generate GHG emissions through motor vehicle trips to and from the project site; energy use (natural gas and generation of electricity consumed by the proposed project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. The total annual GHG emissions would be less than the proposed project of 2,290 MT of CO_2e and therefore, would be less than SCAQMD's screening threshold of 10,000 MT of CO_2e per year and also less than SCAQMD's screening threshold for mixed-use projects of 3,000 MT of CO2e per year.

Noise

Implementation of this alternative would result in a similar impact on noise associated with the proposed project. At its closest point, the construction activity would be located within 150 feet of the existing church to the east, across Orange Avenue. The maximum and average noise levels would be the same as the proposed project, which would result in a significant impact. Compliance with **Mitigation Measure NOI-1** would require limited work hours, which would result in a less than significant impact.

Traffic noise associated with project construction is not anticipated to be a significant source of noise. Traffic noise is not greatly influenced by lower levels of traffic, such as those associated with the project's construction effort. For example, traffic levels would have to double for traffic noise on adjacent roadways to increase by 3 dBA. The project's construction traffic on adjacent roadways would increase hourly traffic volumes by much less than a factor of 2; therefore, the increase in construction related traffic noise would be less than 3 dBA and is not significant.

Similar to the proposed project, no significant off-site traffic noise impacts would occur under existing year conditions, and stationary source noise impacts would be lower than the City of Long Beach's District 1 daytime threshold of 70 dBA L_{max}, due to the distance from sensitive receptors.

Similar to the proposed project, implementation of the Reduced Project Alternative would result in less than significant impacts from construction vibration. The church east of the project site would be located approximately 200 feet from the building footprint where pile driving may occur. Following FTA vibration guidance, at 200 feet, the pile driver vibration level would be 77 VdB. This level would not exceed FTA's daytime annoyance threshold of 78 VdB. Therefore, the impacts from construction vibration would be less than significant.

Transportation

Similar to the proposed project, during construction, construction-related traffic, such as deliveries of equipment and materials and construction worker traffic, would be generated. However, construction traffic would be temporary and would not substantially interfere with the existing traffic load and capacity of the street system.

As with the proposed project, operation of the Reduced Project Alternative would generate passenger car and truck trips to the project site. However, the Reduced Project Alterative would reduce the amount of development from 160,673 SF to 88,557 SF and ultimately reduce the total average daily trips from 757 to 417. The Reduced Project Alternative would generate 66 new AM peak hour trips and 72 new PM peak hour trips, which is 45 percent less than the proposed project (Appendix F). However, 60 percent of the project trips pass through the intersection of Orange Avenue and Spring Street and even with a reduction in 45 percent of the peak hour trips, a significant impact would be triggered at this intersection. **Mitigation Measures TRAN-2 and TRAN-3** would be implemented to reduce significant impacts at Orange Avenue and Spring Street; however, impacts would be significant and unavoidable because the LOS would deteriorate from LOS D.

Due to the project distribution pattern, Orange Avenue and 32nd Street and Orange Avenue at I-405 Southbound Ramps would result in a significant impacts, similar to the proposed project. **Mitigation Measure TRAN-1** would reduce impacts at Orange Avenue and 32nd Street; however, this improvement is subject to approval by and is the responsibility of the City of Signal Hill. The City of Signal Hill does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. Therefore, improvements at Orange Avenue and 32nd are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, the impact at Orange Avenue and 32nd Street during PM peak hours is considered significant and unavoidable. Similarly, **Mitigation Measures TRAN-4 and TRAN-5** would reduce impacts at Orange Avenue at I-405 Southbound Ramps. However, a significant and unavoidable impact would occur because these measures are the responsibility of and subject to approval by Caltrans. Caltrans does not have any plans to improve the impacted intersection, or if it does have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational

by the project's opening year. Furthermore, the City of Long Beach has no independent control or jurisdiction over the implementation of the improvements at Orange Avenue and I-405 Southbound Ramps.

Conclusion

Under the Reduced Project Alternative, impacts would be similar to the proposed project for all resource sections, with the exception of Transportation. Transportation impacts would be reduced under the Reduced Project Alternative compared to the proposed project because total daily trips would be reduced from 757 to 417; however, 60 percent of the project trips pass through the intersection of Orange Avenue and Spring Street and even with a reduction in 45 percent of the peak hour trips, a significant impact would be triggered at this intersection. Additionally, improvements would be required at City of Signal Hill jurisdictional intersection Orange Avenue and 32nd Street and Caltrans jurisdictional intersection Orange Avenue at I-405 Southbound Ramps. The City of Long Beach has no independent control or jurisdiction over the implementation of the identified improvements at these intersections. Since the responsible agencies do not have any plans to improve the impacted intersections, or if they do have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year, impacts would be significant and unavoidable. As shown in Table 5.4-2, implementation of this alternative would meet most of the basic objectives of the project.

Table 5.4-2. Attainment of Project Objectives – Alternative 2: Reduced Project

Project Objective	Does Reduced Project Alternative Meet Project Objectives?
Provide an industrial and office development project consistent with the site's land use that maximizes the development potential of the site	**No**. The Reduced Project Alternative would not maximize the development potential of the site.
Provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities	**Yes**. The Reduced Project Alternative would provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities.
Provide a modern, urban development site in place of vacant site, which was previously a natural gas processing and compression plant	**Yes**. The Reduced Project Alternative would provide a modern, urban development in place of a vacant site.
Provide an economically-viable development program for the property	**Partially**. The Reduced Project Alternative would provide an economically-viable development program for the site but to a lesser extent than the project because of the reduced scope.
Increase the City of Long Beach's professional industrial and office inventory, which would accommodate additional employment within the city	**Partially**. The Reduced Project Alternative would increase the city's professional industrial and office inventory and accommodate additional jobs but to a lesser extent than the project because of the reduced scope.

Table 5.4-2. Attainment of Project Objectives – Alternative 2: Reduced Project

Project Objective	Does Reduced Project Alternative Meet Project Objectives?
Maintain consistency with the City of Long Beach General Plan and zoning ordinances	**Yes**. The Reduced Project Alternative would be consistent with the City of Long Beach General Plan and zoning ordinances.
Provide needed infrastructure improvements including roadway, sidewalk, and park improvements, which would correct existing public infrastructure deficiencies	**Yes**. The Reduced Project Alternative would include infrastructure improvements including roadway, sidewalk, and park improvements to correct existing public infrastructure deficiencies.

5.4.3 Alternative 3: Mixed-Use Development

The Mixed-Use Development Alternative proposes a mixed-use building that is approximately 61 feet (up to maximum 65 feet) above ground level (maximum 5 stories). The building includes a 200-unit, 5-story apartment building, with 56,000 SF of retail shopping center space on the street level. The building also includes a 4-story parking structure on a 7.8-acre site. The entrance for the parking structure would be on the north side of the property from Spring Street and on the east side of the property from Orange Avenue. Off-site street improvements and off-site park improvements would be the same as described for the proposed project. This alternative would conflict with the City of Long Beach General Plan and zoning ordinance.

Air Quality

As with the proposed project, implementation of this alternative would result in an increase in air emissions. Construction of the Mixed-Use Development Alternative would require the same construction phases, similar construction equipment, and for a similar length of time. Similar to the proposed project, the Mixed-Use Development Alternative would not result in an exceedance of SCAQMD thresholds for short-term construction related emissions or long-term operation of the project. The potential for fugitive dust remains significant, and implementation of **Mitigation Measure AQ-1** would be required to reduce potential impacts to less than significant.

Similar to the proposed project, the Mixed-Use Development Alternative would have potential long-term operational air quality impacts from mobile source emissions associated with project-related vehicular trips and stationary source emissions from on-site energy consumption; however, while the emissions rates for on-site operational activities would be greater than the proposed project, the emissions rates would not exceed the LSTs, and therefore, impacts would be less than significant for operation.

Geology and Soils

Implementation of this alternative would result in similar impacts related to geology and soils as the proposed project, as the project site would be graded to accommodate development, and new buildings (the mixed-use building and associated parking structure) would be located on the project site. Similar to the proposed project, the project site would be within 600 feet of an EFZ, and the project site contains liquefiable and expansive soils. Potential significant impacts from building structures on liquefiable and expansive soil and in close proximity to an EFZ would remain significant, and

implementation of **Mitigation Measure GEO-1** would be required to reduce potential impacts to less than significant.

Greenhouse Gas Emissions

No significant impact related to this environmental issue has been identified for the proposed project. GHG emissions would be generated during construction of this alternative. Additionally, operation of this alternative would generate GHG emissions through motor vehicle trips to and from the project site; energy use (natural gas and generation of electricity consumed by the proposed project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. For residential, commercial, and mixed-use projects, SCAQMD's threshold is 3,000 MT of CO_2e per year and is lower than for industrial projects, like the proposed project, which is 10,000 MT of CO_2e per year.

The total daily trips for the Mixed-Use Development Alternative would be 3,202, compared to 757 daily trips for the proposed project. The total annual GHG emissions would be more than 3,000 MT of CO_2e and therefore, would exceed SCAQMD's screening threshold and result in a significant impact that would require mitigation.

Noise

Implementation of this alternative would result in a similar impact on noise associated with the proposed project. At its closest point, the construction activity would be located within 150 feet of the existing church to the east, across Orange Avenue. The maximum and average noise levels would be the similar to the proposed project, which would result in a significant impact. Compliance with **Mitigation Measure NOI-1** would require limited work hours, which would result in a less than significant impact.

Traffic noise associated with project construction is not anticipated to be a significant source of noise. Traffic noise is not greatly influenced by lower levels of traffic, such as those associated with the project's construction effort. For example, traffic levels would have to double for traffic noise on adjacent roadways to increase by 3 dBA. The project's construction traffic on adjacent roadways would increase hourly traffic volumes by much less than a factor of 2; therefore, the increase in construction related traffic noise would be less than 3 dBA and is not significant.

Project related long-term vehicular trip increases are anticipated to be minimal when distributed to adjacent street segments. No significant off-site traffic noise impacts would occur under existing year conditions. No mitigation measures would be required for off-site land uses. On-site stationary noise would include building heating, ventilation, and air conditioning systems and parking lot usage, including door closing/slamming, horn honking, and car alarms. The proposed project's stationary source noise impacts would be lower than the City of Long Beach's District 1 daytime threshold of 70 dBA L_{max}, due to the distance from sensitive receptors.

Similar to the proposed project, implementation of the Mixed-Use Development Alternative would result in less than significant impacts from construction vibration. The church east of the project site would be located approximately 200 feet from the building footprint where pile driving may occur. Following FTA vibration guidance, at 200 feet, the pile driver vibration level would be 77 VdB. This level would not exceed FTA's daytime annoyance threshold of 78 VdB. Therefore, the impacts from construction vibration would be less than significant.

Transportation

Similar to the proposed project, during construction, construction-related traffic, such as deliveries of equipment and materials and construction worker traffic, would be generated. However, construction traffic would be temporary and would not substantially interfere with the existing traffic load and capacity of the street system.

Implementation of the Mixed-Use Development Alternative would result in approximately 3,202 passenger total vehicle trips per day (Appendix F). This would be 2,445 daily trips greater than the 757 total daily trips for passenger vehicles and trucks for the proposed project. **Mitigation Measures TRAN-1** through **TRAN-5** would be implemented to reduce significant impacts. However, this alternative would have a greater significant impact at the intersection of Orange Avenue and Spring Street and would result in a significant and unavoidable impact at this intersection with mitigation implemented. Additionally, impacts at Orange Avenue and 32nd Street and Orange Avenue and I-405 Southbound Ramps would result in a significant and unavoidable impact because **Mitigation Measures TRAN-1, TRAN-4,** and **TRAN-5** are subject to approval by and are the responsibility of another agency (City of Signal Hill and Caltrans, respectively). The responsible agencies do not have any plans to improve the impacted intersections, or if they do have plans, those plans are either not funded or on a construction schedule that would not allow for those improvements to be operational by the project's opening year. As such, impacts would be significant and unavoidable

Conclusion

Under the Mixed-Use Development Alternative, impacts would be greater compared to the proposed project. While impacts on geology and soils and noise would be similar to the proposed projects, a new significant impact, resulting from GHG emissions, would occur, and impacts from air quality would be greater. Additionally, impacts on transportation would result in a significant and unavoidable impact similar to the proposed project; however, impacts would be greater than the proposed project. As shown in Table 5.4-3, this alternative would meet some of the objectives of the proposed project but would conflict with the City of Long Beach General Plan and zoning ordinance.

Table 5.4-3. Attainment of Project Objectives – Alternative 3: Mixed-Use Development

Project Objective	Does Mixed-Use Development Alternative Meet Project Objectives?
Provide an industrial and office development project consistent with the site's land use that maximizes the development potential of the site	**No**. The Mixed-Use Development Alternative would not provide an industrial and office development project consistent with the site's land use.
Provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities	**No**. The Mixed-Use Development Alternative would not provide an industrial and office development project that is compatible and complementary with the existing surrounding and adjacent land uses and facilities. The project site is currently surrounded by light industrial, and a mixed-use development would not be as compatible and complementary to the existing surrounding and adjacent land uses and facilities.
Provide a modern, urban development site in place of vacant site, which was previously a natural gas processing and compression plant	**Yes**. The Mixed-Use Development Alternative would provide a modern, urban development site in place of the current vacant site.
Provide an economically-viable development program for the property	**Yes**. The Mixed-Use Development Alternative would provide an economically-viable development program for the property.
Increase the City of Long Beach's professional industrial and office inventory, which would accommodate additional employment within the city	**No**. The Mixed-Use Development Alternative would not provide an increase in the city's professional industrial and office inventory; however, additional employment may be created in the retail space.
Maintain consistency with the City of Long Beach General Plan and zoning ordinances	**No**. The Mixed-Use Development Alternative would not be consistent with the City of Long Beach General Plan and zoning ordinances.
Provide needed infrastructure improvements including roadway, sidewalk, and park improvements, which would correct existing public infrastructure deficiencies	**Yes**. The Mixed-Use Development Alternative would provide infrastructure improvements including roadway, sidewalk, and park improvements which would correct existing public infrastructure deficiencies.

5.5 Environmentally-Superior Alternative

As shown in Table 5.5-1, the No Project/No Development Alternative is considered the environmentally superior alternative to the proposed project, as it would avoid the following impacts identified for the proposed project: air quality, geology and soils, noise, and transportation. However, CEQA Guidelines Section 15126.6(e)(2) states that "if the environmentally-superior alternative is the No Project Alternative, the EIR shall also identify an environmentally-superior alternative among the other alternatives." As shown in Table 5.5-1, the Reduced Project Alternative would be the environmentally superior alternative, because this alternative would reduce the potential significant impacts associated with transportation and result in lower GHG emissions; however, this alternative would not meet all of the project objectives.

This page is intentionally blank.

Table 5.5-1. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Alternative 2: Reduced Project	Alternative 3: Mixed-Use Development
Air Quality	Less than Significant with Mitigation	**Avoid** The existing baseline air emissions would remain the same, as no new development would occur	**Similar** Emissions would be less compared to the proposed project; however, the potential for fugitive dust still remains.	**Greater** Emissions for construction activities would be similar compared to the proposed project; however, the potential for fugitive dust still remains. Emissions of all criteria pollutants for operation would be higher compared to the proposed project.
Geology and Soils	Less than Significant with Mitigation	**Avoid** Because no additional grading or development would occur, this alternative would avoid the potential geology/soils impact.	**Similar** Because grading and development would occur, this alternative would result in a potential impact similar to the proposed project.	**Similar** Because grading and development would occur, this alternative would result in a potential impact similar to the proposed project.
GHG Emissions	Less than Significant	**Avoid** The existing baseline GHG emissions would remain the same, as no new development would occur.	**Reduce** This alternative would emit less MT of CO_2e compared to the proposed project.	**Greater** This alternative would emit more MT of CO_2e compared to the proposed project and would be subject to a lower emissions threshold; therefore, it would result in a significant impact.
Noise	Less than Significant with Mitigation	**Avoid** This alternative would not change the existing conditions of the site, so there would be no potential to impact existing adjacent sensitive receptors.	**Similar** This alternative would result in similar construction noise and vibration impacts, due to the distance from sensitive receptors.	**Similar** This alternative would result in similar construction noise and vibration impacts, due to the distance from sensitive receptors.

Table 5.5-1. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Development Alternative	Alternative 2: Reduced Project	Alternative 3: Mixed-Use Development
Transportation	Significant and Unavoidable	**Avoid** This alternative would not change the existing conditions of the site; therefore there would be no increase in trip generation at the project site.	**Reduced** This alternative would generate 417 total daily trips, approximately 340 less daily trips than the proposed project and result in a reduced impact; however, the significant unavoidable impact to the intersections of Orange Avenue/Spring Street, Orange Avenue/32nd Street, and Orange Avenue/I-405 Southbound Ramps would remain.	**Greater** This alternative would generate 3,202 total daily trips, approximately 2,445 more daily trips than the proposed project, would not reduce or avoid the significant unavoidable impact to the intersections of Orange Avenue/Spring Street, Orange Avenue/32nd Street, or Orange Avenue/I-405 Southbound Ramps. It would likely result in significant LOS impacts to other roadway facilities.

Notes:

Avoid=Impacts under this alternative avoided as compared to impacts for the proposed project; Reduced=Impacts under this alterative reduced as compared to impacts for the proposed project; Similar=Impacts under this alterative are similar to impacts for the proposed project; Greater=Impacts under this alternative greater to impacts for the proposed project

CO_2e=carbon dioxide equivalent; GHG=greenhouse gas; I-405=Interstate 405; LOS=level of service; MT=metric tons

6 References

Addicott, W. O. 1964. *Pleistocene Invertebrates from the Dume Terrace, Western Santa Monica Mountains, California*. Bulletin of the Southern California Academy of Sciences 63(3):141-150.

California Air Resources Board (CARB). 2005. *CEQA Air Quality and Land Use Handbook: A Community Health Perspective.* Available at: https://www.arb.ca.gov/ch/handbook.pdf. Accessed November 11, 2019.

——— 2016. *Ambient Air Quality Standards*. Available at: www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed October 22, 2019.

——— 2019. *Area Designations.* Available at: http://www.arb.ca.gov/desig/desig.htm. Accessed October 22, 2019.

California Department of Conservation. 2016a. Earthquake Zones of Required Investigation, California Geological Survey. Available at: https://maps.conservation.ca.gov/cgs/EQZApp/. Accessed October 21, 2019.

——— 2016b. Farmland Mapping and Monitoring Program. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/ Accessed January 2019.

——— 2017. "Williamson Act/Land Conservation Act." Available at: http://www.conservation.ca.gov/dlrp/lca Accessed January 2019.

——— 2018. Division of Oil, Gas, and Geothermal Resources. Well Finder. Available at: https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-118.17515/33.81018/17. Accessed October 22, 2019.

California Department of Forestry and Fire Protection (CAL FIRE). 2011. *Los Angeles County Local Area Responsibility Area Fire Hazard Severity Zones*. Website: https://osfm.fire.ca.gov/media/7280/losangelescounty.pdf. Accessed October 22, 2019.

California Department of Resources Recycling and Recovery. 2019. California's 2017 Per Capita Disposal Rate Estimate. Available at: https://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/mostrecent. Accessed November 11 2019.

California Department of Transportation (Caltrans). 2002a. *Transportation Related Earthborne Vibration.* Sacramento, California.

——— 2002b. Guide for the Preparation of Traffic Impact Studies. December.

——— 2011. California Scenic Highway Mapping System, Los Angeles County. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed January 19, 2019.

——— 2017. "Paleontology." Standard Environmental Reference, Environmental Handbook, Volume 1, Chapter 8. Available at: https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-8-paleontology. Accessed October 22, 2019.

California Geological Survey (CGS). 1998. Seismic Hazard Zone Report.

California Regional Water Quality Control Board. 2014. *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges from the City of Long Beach.* Available at: http://www.longbeach.gov/globalassets/pw/media-library/documents/resources/stormwater-management/npdes-101/attachment-f--fact-sheet_final. Accessed November 11, 2019.

City of Glendale. 2014. *Draft Environmental Impact Report for the Scholl Canyon Landfill Expansion*, Volume 1 of 2. March. Prepared by Sanitation Districts of Los Angeles County, Whittier.

City of Long Beach. 1973. Long Beach General Plan Program, Conservation Element. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/1973-conservation-element. Accessed October 21, 2019.

——— 1975a. City of Long Beach General Plan Program, Noise Element. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/noise-element. Accessed November 6, 2019.

——— 1975b. City of Long Beach General Plan Program, Scenic Routes Element. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/scenic-routes-element. Accessed October 21, 2019.

——— 1975c (Reprint 2004). Long Beach General Plan Program, Public Safety Element. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/public-safety. Accessed October 21, 2019.

——— 1980. Long Beach General Plan Program, Local Coastal Program element. Available at http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/local-coastal-program. Accessed October 21, 2019.

——— 2013a. Long Beach Sport Park Addendum to Previously Approved Final Environmental Impact Report for Willow Spring Park Master Plan. Available at: http://www.longbeach.gov/lbds/planning/environmental/reports/. Accessed October 29, 2019.

——— 2013b. City of Long Beach. General Plan Program, Mobility Element. Website: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/320615_lbds_mobility_element_web. Accessed October 21, 2019.

——— 2015. City of Long Beach. *2015 Urban Water Management Plan*. Available at: https://lbwater.org/wp-content/uploads/2019/09/LBWD-2015-UWMP-FINAL-Board-Adopted-3.pdf. Accessed October 21, 2019.

——— 2018. City of Long Beach Zoning Districts. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/maps/zoning-maps/50-by-50-zoning-map-2018-september. Accessed October 18, 2019.

——— 2019a. City of Long Beach General Plan, Land Use Element. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/lueude/land_use_element_october_2019. Accessed December 20, 2019.

——— 2019b. Long Beach, California Municipal Code. Section 8-80-160, Noise District Map. Available at: https://mcclibrary.blob.core.usgovcloudapi.net/codecontent/16115/332189/8-80-160NoiseDistrictMap.png. Accessed November 6, 2019.

——— 2019c. *Public Review Draft Noise Element City of Long Beach General Plan*. Available at: http://longbeach.gov/globalassets/lbds/media-library/documents/orphans/noise-element/pr-draft-060419_new-logo_reduced_kw. Accessed December 12, 2019.

City of Signal Hill. 2014. Official Zoning Map. Available at: https://www.cityofsignalhill.org/DocumentCenter/View/2572/Zoning-Map-2018?bidId=. Accessed October 18, 2019.

DeLong, James H. 1939. *The Paleontology and Stratigraphy of the Pleistocene at Signal Hill, California*. Master's thesis, California Institute of Technology. Available at: https://thesis.library.caltech.edu/5582/. Accessed August 2018.

Division of Mine Reclamation. 2017. Mines Online. Available at: http://maps.conservation.ca.gov/mol/index.html. Accessed January 2019.

Federal Emergency Management Agency. 2008. Map No. 06037C1970F. Date 9/26/2008. Available at: https://msc.fema.gov/portal/home. Accessed October 22, 2019.

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. Available at: 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 November 6, 2019.

Governor's Office of Planning and Research. 2017. *Guidelines for the Preparation and Content of the Noise Element of the General Plan*. Appendix D in the State of California General Plan Guidelines. Sacramento, CA.

Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Available at: https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf. Accessed October 22, 2019.

Kohler, S. L. 2010. Update of Mineral Land Classification for Portland Cement Concrete Grade Aggregate in the San Gabriel Valley Production-Consumption Region: California. Geological Survey Special Report 209.

Long Beach Development Services. 2013. *Low Impact Development (LID) Best Management Practices (BMP) Design Manual, 2nd edition*. Available at: http://www.longbeach.gov/globalassets/lbds/media-library/documents/orphans/lid/lid-bmp-manual---2nd-ed--final--121813. Accessed October 21, 2019.

Sanitation Districts of Los Angeles County. n.d. Table 1, Loadings for Each Class of Land Use. Available at: https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531. Accessed October 21, 2019.

Saucedo, George J., H. Gary Greene, Michael P. Kennedy, and Stephen P. Bezore. 2016. *Geologic Map of the Long Beach 30' x 60' Quadrangle, California.* Version 2.0. California Geological Survey, California Department of Conservation.

Signal Hill Petroleum. 2018. City Application: Site Plan. August 2018.

Smith, Brooks. 2013. Paleontological Resources Assessment, California State University Long Beach Foundation Project. Prepared by LSA Associates for the City of Long Beach.

South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*. Available at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). Accessed October 22, 2019.

——— 2003. *White Paper on Potential Strategies to Address Cumulative Impacts from Air Pollution*. Available at https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf?sfvrsn=2. Accessed December 20, 2019.

——— 2008. *Final Localized Significance Thresholds*. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2. Accessed October 22, 2019.

——— 2016. *Air Quality Management Plan*. Available at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15. Accessed October 22, 2019.

United States Environmental Protection Agency (U.S. EPA). 1978. *Protective Noise Levels: Condensed Version of EPA Levels Document*. November.

7 EIR Preparers and Persons and Organizations Contacted

7.1 Lead Agency

Christopher Koontz	Planning Manager
Scott Kinsey	Planner V

7.2 EIR Preparers

7.2.1 HDR

Jenny Vick	Project Manager
Tim Gnibus	Quality Manager
Ronell Santos	Environmental Planner
Anders Burvall	Geographic Information System
Renee Stueber	Document Production Administrator
Katherine Turner	Document Production Administrator

7.3 Persons and Organizations Contacted

Emily Gibson	Caltrans, Transportation Planner
Siew Mei Tan	Caltrans, Senior Reviewer for I-405 and State Route 1/Pacific Coast Highway
Azadeh Mardani	Caltrans, Lead Reviewer for I-405 and State Route 1/Pacific Coast Highway
Esmaeil Balal Varnosfaderani	Caltrans, Lead Reviewer for I-710
Miya Edmonson	Caltrans, Local Development – Intergovernmental Review and CEQA Branch Chief

This page is intentionally blank.

8 Response to Comments

8.1 Introduction

The Draft EIR was distributed for public review from January 6, 2020, through February 20, 2020, pursuant to CEQA Guidelines Section 15105. Comments received throughout the 45-day public comment period included six letters. According to CEQA Guidelines Section 15088(a), "the lead agency shall evaluate comments on environmental issues received from persons who reviewed the Draft EIR and shall prepare a written response." In accordance with CEQA Guidelines Section 15132(d), the Final EIR shall consist of responses to significant environmental points raised in the review and consultation process. Section 8.3 provides responses to all written comments received during the public comment period.

8.2 Comments on the Draft EIR

During the 45-day comment period, which began January 6, 2020 and closed February 20, 2020, six letters were received. The comment letters are listed in Table 8-1.

Table 8-1. List of Agencies and Organizations that Commented on the Draft EIR

Letter	Commenter	Date
Agency		
A1	California Air Resources Board	February 19, 2020
A2	City of Signal Hill	February 19, 2020
A3	California Department of Transportation (Caltrans)	February 20, 2020
A4	South Coast Air Quality Management District	February 20, 2020
Organization		
O1	Gabrieleno Band of Mission Indians – Kizh Nation	January 10, 2020
O2	Supporters Alliance for Environmental Responsibility	January 29, 2020

8.3 Responses to Comments on the Draft EIR

Responses to agencies and organizations that commented on the Draft EIR are included below. A copy of each letter with bracketed comment numbers on the right margin is followed by the response for each comment as indexed in the letter. Any changes to the Draft EIR are documented by showing deletions with ~~strikethrough~~ and additions with <u>underline</u>.

This page is intentionally blank.

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Mary D. Nichols, Chair

February 19, 2020

Scott Kinsey, Planner
City of Long Beach
411 West Ocean Boulevard
Long Beach, California 90802

Dear Scott Kinsey:

Thank you for providing the California Air Resources Board (CARB) with the opportunity to comment on the Spring Street Business Park Project (Project) Draft Environmental Impact Report (DEIR), State Clearinghouse No. 2019100514. The project includes the development of three new industrial buildings totaling 160,673 square feet. The proposed industrial buildings will not include space used for cold storage. Once in operation, the Project would introduce up to 631 daily vehicle trips, including up to 126 daily heavy-duty truck trips, along local roadways. The Project is located within the City of Long Beach (City), California, which is the lead agency for California Environmental Quality Act (CEQA) purposes. A1-a

CARB submitted comments on the Notice of Preparation (NOP) for the DEIR released in October 2019, which is included as Attachment A of this letter. Those comments highlighted the need for a health risk assessment (HRA) to be prepared for the Project and encouraged the applicant and City to implement all existing and emerging zero-emission technologies to minimize diesel particulate matter (diesel PM) and nitrogen oxides (NO_x) emissions exposure to all neighboring communities, as well as minimize the greenhouse gases that contribute to climate change. Furthermore, CARB's comments emphasized the potential cumulative health impacts should the City allow the construction of the proposed industrial buildings near communities that score within the top 15 percent of California census tracts on the California Communities Environmental Health Screening Tool Version 3.0 (CalEnviroScreen).[1] Based on CARB's review of the DEIR, the applicant and City did not adequately address CARB's original comments on the Project; therefore, CARB continues to be concerned about the air pollution impacts that would result should the City approve the Project. A1-b

[1] "CalEnviroScreen 3.0." California Office of Environmental Health Hazard Assessment, June 2018, https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

arb.ca.gov 1001 I Street • P.O. Box 2815 • Sacramento, California 95812 (800) 242-4450

Agency: California Air Resources Board

Letter Code: A1

Commenter: Richard Boyd

Date: February 19, 2020

A1-a This comment summarizes the project description. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for the decision makers. No further response is required.

A1-b Please see response to comment A1-c regarding CARB's request for preparation of a health risk assessment. The commenter's encouragement of zero-emission technologies and concern for construction near communities that score within the top 15 percent of California census tracts is noted and will be made available to decision makers. No further response is required.

Scott Kinsey
February 19, 2020
Page 2

I. The DEIR Does Not Adequately Analyze the Project's Potential Health Risk Impacts

The DEIR concluded that the Project would not expose nearby sensitive receptors to pollutant concentrations that would result in a significant impact. The applicant and City reached this conclusion by comparing the Project's operational air pollutant emissions to South Coast Air Quality Management District's (SCAQMD) significance thresholds. Since the DEIR shows the Project's operational air pollutant emissions would not exceed SCAQMD's significance thresholds, it was concluded that the Project would result in a less than significant impact on public health. This impact conclusion was reached without conducting an HRA or any other quantitative analysis. Furthermore, the DEIR did not sufficiently explain why an HRA was not prepared for the Project. As required under CEQA, the applicant and City must include a quantitative analysis in determining the severity of the Project's impact on public health.[2]

Since the Project is located near residences already disproportionately burdened by multiple sources of air pollution, CARB continues to strongly urge the applicant and City to prepare an HRA for the Project. The HRA prepared in support of the Project should be based on the latest Office of Environmental Health Hazard Assessment (OEHHA) guidance (2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments).[3]

A1-c

II. The DEIR Did Not Model Mobile Air Pollutant Emissions Using CARB's 2017 Emission Factor Model (EMFAC2017)

The Project's air pollutant emissions were modeled using mobile emission factors obtained from CARB's 2014 Emission Factors model (EMFAC2014). Project-related air pollutant emissions from mobile sources should be modeled using CARB's latest EMFAC2017.[4] One of the many updates made to EMFAC included an update to the model's heavy-duty emission rates and idling emission factors, which results in higher particulate matter (PM) emissions as compared to EMFAC2014. Since EMFAC2017 generally shows higher emissions of particulate matter from trucks than EMFAC2014, the Project's mobile source NO_x and diesel PM emissions are likely underestimated. CARB urges the applicant and City to model and report the Project's air pollution

A1-d

[2] In fact, the California Supreme Court recently addressed this issue in its landmark ruling in Sierra Club v. County of Fresno (2018) 6 Cal.5th 502 (Friant Ranch). In Friant Ranch, the Court held that an Environmental Impact Report (EIR) is inadequate if it does not make "a reasonable effort to discuss relevant specifics regarding the connection between two segments of information already contained in the EIR, the general health effects associated with a particular pollutant and the estimated amount of that pollutant the project will likely produce." (Id., at p. 521.) The current version of the DEIR fails to do this, and as a result, is currently inadequate as a matter of law.

[3] Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February, 2015. Accessed at: https://oehha.ca.gov/media/downloads/crnr/201 Sguidancemanual.pdf.

[4] The United States Environmental Protection Agency (U.S. EPA) approved the use of EMFAC2017 for SIP and conformity purposes effective August 15, 2019.

A1-c The comment states that the Draft EIR should have conducted a Health Risk Assessment or other quantitative analysis to evaluate health risks to sensitive receptors. The Draft EIR fully evaluated potential impacts to sensitive receptors. The proposed project's criteria pollutant emissions, including particulate matter and oxides of nitrogen, were evaluated in Section 3.1 of the Draft EIR. The proposed project's greenhouse gas emissions were evaluated in Section 3.3 of the Draft EIR. All of the proposed project's anticipated emissions were determined to be below local significance thresholds and were therefore determined to be less than significant. The Draft EIR concluded that, due to the large distance between the project site and the closest sensitive receptors, which are a church (150 feet) and residences (1,200 feet), sensitive receptors would not be exposed to significant pollutant concentrations as a result of the project.

Nonetheless, pursuant to the commenter's recommendation, the City has conducted a screening level health risk assessment using AERSCREEN (v16216) with AERMOD (v19191) to demonstrate that air emissions associated with the construction and operation of the project would not significantly impact the surrounding sensitive receptors.

Methodology:

AERSCREEN (v16216) and AERMOD (v19191) are currently recommended for use in health risk modeling by the California Office of Environmental Health Hazard Assessment (OEHHA). The model outputs are included as Appendix G of this EIR.

The following methods were used to calculate the diesel particulate matter concentration, and the associated health risk, from the project site:

1. The average daily particulate matter emissions from construction were calculated by dividing the total

	emissions (315.6 pounds) by the number of work days (280) to get 1.13 pounds per day. 2. The average operational trip length for the project is 12.2 miles. Due to the size of the site (7.8 acres), less than ½ mile of each trip would be generated on-site for truck movement and idling. The operational $PM_{2.5}$ emissions can be calculated by multiplying the annual emissions (0.0093 tons) by 2000 pounds/ton to get 18.6 pounds per year. The on-site emissions can be calculated by multiplying the total emissions by the percentage of time that the vehicles would be traveling on site (0.5/12.2). The total on-site $PM_{2.5}$ emissions generated during operation is 0.76 pounds per year. The operational emissions were obtained from the CalEEMod model runs that were modified to account for the high truck volumes on-site. The operational fleet mix of trucks was adjusted to 20% (default is 7.6%). 3. Section 4.3.1.1 of the Office of Environmental Health Hazard Assessment's (OEHHA) Risk Assessment Guidelines includes the following text on the use of point sources: > Point sources are probably the most common type of source and most air dispersion models have the capability to simulate them. Typical examples of point sources include exhaust stacks. Isolated vents from buildings are special examples of point sources The only sources of on-site diesel particulate matter will be the construction equipment required to build the proposed project and the trucks that will use the facilities during operation. Therefore, the emission concentrations were calculated using a point source. 4. Consistent with Table 8.5 in OEHHA's Risk Assessment Guidelines, the health risks at residences are calculated over a 30 year period starting with the third trimester of pregnancy and the health risks at

commercial developments are calculated over a 25 year period starting at age 18.

Construction:

The average daily construction emission rate was calculated using the following formula:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{315.6\ pounds}{280\ days} x \frac{453.6\ grams}{pound} x \frac{1\ day}{24\ hours} x \frac{1\ hour}{3{,}600\ seconds} = 0.00592\ g/s$$

Construction equipment would be expected to operate at various locations within the project site; however, to provide the highest source emission rate, all diesel exhaust was modeled as if it came from a single point source on the site.

At 50 meters, the distance to the closest sensitive receptor, a nearby church, the annual diesel particulate matter concentration would be 0.1158 µg/m^3. Using the daily breathing rate, exposure frequency, exposure duration, averaging time, and age sensitivity factors listed in the OEHHA guidelines, the cancer risk for an individual exposed to that concentration for one year would be 0.21 in one million. This risk is below SCAQMD's 10 in one million threshold. Furthermore, the use characteristics of many churches are not daily, but rather have gatherings of parishioners one, two or more days per week.

At 375 meters, the distance from the center of the project site to the off-site residences, the annual diesel particulate matter concentration would be 0.03040 µg/m^3. Using the daily breathing rate, exposure frequency, exposure duration, averaging time, and age sensitivity factors listed in the OEHHA guidelines, the cancer risk for an individual exposed to that concentration for one year (3rd trimester through age 0.75) would be 3.6 in one million. This risk is below SCAQMD's 10 in one million threshold.

Operations:

The average daily operation emission rate was calculated using the following formula:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{0.76\ pounds}{365\ days} x \frac{453.6\ grams}{pound} x \frac{1\ day}{24\ hours} x \frac{1\ hour}{3{,}600\ seconds} = 0.00001093\ g/s$$

At 50 meters, the distance to the closest sensitive receptor, a nearby church, the annual diesel particulate matter concentration would be 0.00214 µg/m^3. Using the daily breathing rate, exposure frequency, exposure duration, averaging time, and age sensitivity factors listed in the OEHHA guidelines, the cancer risk for an individual exposed to that concentration for 25 years would be 0.003 in one million. This risk is below SCAQMD's 10 in one million threshold.

At 375 meters, the distance from the center of the project site to the off-site residences, the annual diesel particulate matter concentration would be 0.0000561 µg/m^3. Using the daily breathing rate, exposure frequency, exposure duration, averaging time, and age sensitivity factors listed in the OEHHA guidelines, the cancer risk for an individual exposed to that concentration for 30 years (3rd trimester through age 30) would be 0.04 in one million. This risk is below SCAQMD's 10 in one million threshold.

Combined Risk

The combined cancer risk from construction and operation would be 3.64 in one million at the closest residences and 0.213 in one million at the church. These risks are below SCAQMD's 10 in one million threshold. Therefore, a refined health risk assessment is not required for the proposed project

A1-d The proposed project's emissions were calculated using the current version of CalEEMod (Version 2016.3.2),

	which uses EMFAC2014 emission rates. CalEEMod is the industry standard model for calculating the emissions from development projects. The SCAQMD specifically recommends the use of CalEEMod to estimate emissions from development projects. Therefore, use of EMFAC2017 emission rates is not warranted.

Scott Kinsey
February 19, 2020
Page 3

emissions from mobile sources using emission factors found in CARB's latest EMFAC2017. A1-d Contd.

III. The DEIR Did Not Account for Air Pollutant Emissions from Heavy-Duty Trucks During On-site Grading

The DEIR did not account for mobile air pollutant emissions during the Project grading construction phase. The Project's construction air pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod). Based on CARB's review of the CalEEMod outputs found in Appendix B (Air Quality/Greenhouse Gas Technical Memorandum) of the DEIR, the applicant and City assumed that no heavy-duty truck trips would be required to import or export soil during on-site grading. Furthermore, the DEIR does not explicitly state the quantity of soil needed to grade the Project site that supports this assumption. If the Project site cannot be graded using existing on-site soil, the soil will need to be imported into the Project site. If that is the case, a large number of heavy-duty truck trips may be required to transport soil. CARB urges the applicant and City to remodel the Project's construction air pollutant emissions using accurate heavy-duty truck trip estimates. A1-e

Residences and other sensitive receptors (e.g., daycare facilities, senior care facilities, and schools) located near construction haul routes could be exposed to diesel exhaust emissions that were not evaluated in the DEIR. The DEIR should clearly state the total number of heavy-duty truck trips expected during Project construction so the public can fully understand the potential environmental effects of the Project on their communities.

IV. Conclusion

CARB is concerned about the Project's potential public health impacts and the lack of analysis presented in the DEIR. The DEIR potentially underestimates air pollutant emissions by not accounting for heavy-duty truck trips during on-site grading, using an outdated version of EMFAC, and not evaluating the Project's cancer risks in an HRA. CARB recommends that the applicant and City analyze the Project's air quality and health impacts using the appropriate and current models, account for all construction emission sources, and include the air pollution emission reduction measures listed in CARB's original comment letter on the Project (see Attachment A) in the FEIR. A1-f

A1-e The CalEEMod model runs were updated to include the truck trips associated with 7,500 cubic yards of soil import during the grading phase, which is the anticipated amount of required import for the project. The results of the model runs are included in Appendix G of the Final EIR. Table 3.1-6 in Section 3.1, Air Quality, and Table 3.3-3 and Table 3.3-4 in Section 3.3, Greenhouse Gas Emissions, of the Final EIR have been updated to reflect the updated emission calculations. The changes had no effect on the significance determinations, and the truck trips for soil import were included in the health risk assessment modeling discussed in response to comment A1-c.

A1-f Please see response to comment A1-c for a detailed health risk assessment of the proposed project's construction and operational emissions, response to comment A1-d for a description of the models used, and response to comment A1-e for the haul truck trip emissions that were added to the grading phase. The proposed project's air quality and GHG impacts are less than significant. Therefore, no additional mitigation measures are warranted. However, the project applicant has committed to implementing these measures. These measures have been added to Section 3.1, Air Quality, as additional measures.

Scott Kinsey
February 19, 2020
Page 4

CARB appreciates the opportunity to comment on the DEIR for the Project and can provide assistance on zero-emission technologies and emission reduction strategies, as needed. If you have questions, please contact Stanley Armstrong, Air Pollution Specialist, at (916) 440-8242 or via email at stanley.armstrong@arb.ca.gov. A1-g

Sincerely,

Richard Boyd, Chief
Risk Reduction Branch
Transportation and Toxics Division

Attachment

cc: See next page.

A1-g This comment summarizes the contents of the letter. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for the decision makers. No further response is required.

Scott Kinsey
February 19, 2020
Page 5

cc: State Clearinghouse
P.O. Box 3044
Sacramento, California 95812

Carlo De La Cruz
Senior Campaign Representative
Sierra Club
714 West Olympic Boulevard, Suite 1000
Los Angeles, California 90015

Lijin Sun
Program Supervisor
CEQA Intergovernmental Review
South Coast Air Quality Management District
lsun@aqmd.gov

Morgan Capilla
NEPA Reviewer
U.S. Environmental Protection Agency
Air Division, Region 9
75 Hawthorne Street
San Francisco, California 94105

Taylor Thomas
Research and Policy Analyst
East Yard Communities for Environmental Justice
2317 South Atlantic Boulevard
Commerce, California 90040

Andrea Vidaurre
Policy Analyst
Center for Community Action and Environmental Justice
P.O. Box 33124
Riverside, California 92519

Stanley Armstrong
Air Pollution Specialist
Risk Analysis Section
Transportation and Toxics Division

ATTACHMENT A

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Mary D. Nichols, Chair

November 25, 2019

Scott Kinsey, Planner
Department of Development Services
City of Long Beach
411 West Ocean Boulevard
Long Beach, California 90802

Dear Scott Kinsey:

Thank you for providing California Air Resources Board (CARB) staff with the opportunity to comment on the Notice of Preparation (NOP) for the Spring Street Business Park Project (Project) Draft Environmental Impact Report (DEIR), State Clearinghouse No. 2019100514. The Project consists of the construction and operation of 3 manufacturing/warehousing buildings totaling 160,673 square feet. The Project is proposed within the City of Long Beach (City), California, which is the lead agency for California Environmental Quality Act (CEQA) purposes.

CARB staff is concerned about the air pollution and health risk impacts that would result should the City approve the Project to build the proposed manufacturing/warehousing buildings. Freight facilities, such as warehouse and distribution facilities, can result in high daily volumes of heavy-duty diesel truck traffic and operation of on-site equipment (e.g., forklifts and yard tractors) that emit toxic diesel emissions, and contribute to regional air pollution and global climate change.

Existing residences are located north, south, and northwest of the Project site, with the closest residences situated approximately 1,200 feet from the Project's northern boundary. In addition to residences, five schools (Burroughs Elementary School, Jackie Robinson Academy, Holy Innocents School, Bobbie Smith Elementary School, and Signal Hill Elementary School) are located within 1 mile of the Project. The communities near the Project are surrounded by existing toxic diesel emission sources, which include existing warehouses and other industrial uses, and vehicular traffic along Interstate 405 (I-405) and Interstate 710 (I-710). Due to the Project's proximity to residences and schools already disproportionately burdened by multiple sources of pollution, CARB staff is concerned with the potential cumulative health impacts associated with the construction and operation of the Project.

The State of California has placed additional emphasis on protecting local communities from the harmful effects of air pollution through the passage of Assembly Bill 617 (AB 617) (Garcia, Chapter 136, Statutes of 2017). AB 617 is a significant piece of air quality legislation that highlights the need for further emission reductions in communities with high exposure burdens, like those in which the Project is located. Diesel emissions

A1-h

arb.ca.gov 1001 I Street • P.O. Box 2815 • Sacramento, California 95812 (800) 242-4450

A1-h See responses to comments A1-c through A1-f above.

Scott Kinsey
November 25, 2019
Page 2

generated during the construction and operation of the Project would negatively impact the community, which is already disproportionally impacted by air pollution from existing freight facilities.

Through its authority under Health and Safety Code, section 39711, the California Environmental Protection Agency (CalEPA) is charged with the duty to identify disadvantaged communities. CalEPA bases its identification of these communities on geographic, socioeconomic, public health, and environmental hazard criteria (Health and Safety Code, section 39711, subsection (a)). In this capacity, CalEPA currently defines a disadvantaged community, from an environmental hazard and socioeconomic standpoint, as a community that scores within the top 25 percent of the census tracts, as analyzed by the California Communities Environmental Health Screening Tool Version 3.0 (CalEnviroScreen). CalEnviroScreen uses a screening methodology to help identify California communities currently disproportionately burdened by multiple sources of pollution. Communities that score within the top 25 percent of the census tracts are exposed to higher concentrations of air pollutants and have a higher Pollution Burden.[1] According to CalEnviroScreen, communities near the Project score within the top 15 percent of the census tracts. Therefore, CARB urges the City to ensure that the Project does not adversely impact neighboring disadvantaged communities.

A1-h Contd

The NOP does not state whether the industrial uses proposed under the Project would include cold storage warehouses. The operation of cold storage warehouses would include trucks with transport refrigeration units (TRU) that emit significantly higher levels of toxic diesel emissions, oxides of nitrogen (NO_x), and greenhouse gases than trucks without TRUs. Since it is unclear whether the Project would include cold storage warehouse space, any modeling done in support of the air quality analysis of the DEIR and associated health risk assessment (HRA) should assume that a conservative percentage of the truck and trailer fleet that would be serving the Project site are equipped with TRUs.

In addition to the health risk associated with operations, construction health risks should be included in the air quality section of the DEIR and the Project's HRA. Construction of the Project would result in short-term diesel emissions from the use of both on-road and off-road diesel equipment. The Office of Environmental Health Hazard Assessment's (OEHHA) guidance recommends assessing cancer risks for construction projects lasting longer than two months. Since construction would very likely occur over a period lasting longer than two months, the HRA prepared for the Project should include health risks for existing residences near the Project site during construction.

The HRA prepared in support of the Project should be based on the latest OEHHA guidance (2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of

[1] Pollution Burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution.

Scott Kinsey
November 25, 2019
Page 3

Health Risk Assessments),[2] and the South Coast Air Quality Management District's CEQA Air Quality Handbook.[3] The HRA should evaluate and present the existing baseline (current conditions), future baseline (full build-out year, without the Project), and future year with the Project. The health risks modeled under both the existing and the future baselines should reflect all applicable federal, state, and local rules and regulations. By evaluating health risks using both baselines, the public and City planners will have a complete understanding of the potential health impacts that would result from the Project.

A1-h Contd.

To reduce the exposure of toxic diesel emissions in disadvantaged communities already disproportionally impacted by air pollution, the final design of the Project should include all existing and emerging zero-emission technologies to minimize diesel and NO_x emission exposure to all neighboring communities, as well as the greenhouse gases that contribute to climate change. CARB encourages the City and applicant to implement the measures listed in Attachment A of this comment letter to reduce the Project's construction and operational air pollution emissions.

CARB staff appreciates the opportunity to comment on the NOP for the Project and can provide assistance on zero-emission technologies and emission reduction strategies, as needed. Please include CARB on your State Clearinghouse list of selected State agencies that will receive the DEIR as part of the comment period. If you have questions, please contact Stanley Armstrong, Air Pollution Specialist, at (916) 440-8242 or via email at stanley.armstrong@arb.ca.gov.

Sincerely,

Richard Boyd, Chief
Risk Reduction Branch
Transportation and Toxics Division

Attachment

cc: See next page.

[2] Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February 2015. Accessed at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[3] SCAQMD's 1993 Handbook can be found at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.

Scott Kinsey
November 25, 2019
Page 4

cc: State Clearinghouse
P.O. Box 3044
Sacramento, California 95812

Cynthia Babich, Director
Del Amo Action Committee
P.O. Box 549
Rosamond, California 93560

Morgan Capilla
NEPA Reviewer
U.S. Environmental Protection Agency
Air Division, Region 9
75 Hawthorne Street
San Francisco, California 94105

Carlo De La Cruz
Sierra Club
714 West Olympic Boulevard, Suite 1000
Los Angeles, California 90015

Jo Kay Gosh
Health Effects Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Lijin Sun
Program Supervisor - CEQA
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Andrea Vidaurre
Center for Community Action and Environmental Justice
P.O. Box 33124
Riverside, California 92519

Stanley Armstrong
Air Pollution Specialist
Exposure Reduction Section
Transportation and Toxics Division

A1-h Contd

ATTACHMENT A

Recommended Air Pollution Emission Reduction Measures for Warehouses and Distribution Centers

California Air Resources Board (CARB) staff recommends developers and government planners use all existing and emerging zero to near-zero emission technologies during project construction and operation to minimize public exposure to air pollution. Below are some measures, currently recommend by CARB staff, specific to warehouse and distribution center projects. These recommendations are subject to change as new zero-emission technologies become available.

Recommended Construction Measures

1. Ensure the cleanest possible construction practices and equipment are used. This includes eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g., electrical hookups) to support zero and near-zero equipment and tools.

2. Implement, and plan accordingly for, the necessary infrastructure to support the zero and near-zero emission technology vehicles and equipment that will be operating on site. Necessary infrastructure may include the physical (e.g., needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles and equipment, and medium-heavy and heavy-heavy duty trucks.

3. In construction contracts, include language that requires all off-road diesel-powered equipment used during construction to be equipped with Tier 4 or cleaner engines, except for specialized construction equipment in which Tier 4 engines are not available. In place of Tier 4 engines, off-road equipment can incorporate retrofits such that emission reductions achieved equal or exceed that of a Tier 4 engine.

4. In construction contracts, include language that requires all off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used during project construction be battery powered.

5. In construction contracts, include language that requires all heavy-duty trucks entering the construction site, during the grading and building construction phases be model year 2014 or later. All heavy-duty haul trucks should also meet CARB's lowest optional low-NO_x standard starting in the year 2022.[1]

A1-h Contd.

[1] In 2013, CARB adopted optional low-NO_x emission standards for on-road heavy-duty engines. CARB staff encourages engine manufacturers to introduce new technologies to reduce NO_x emissions below the current mandatory on-road heavy-duty diesel engine emission standards for model years 2010 and later. CARB's optional low-NO_x emission standard is available at: https://www.arb.ca.gov/msprog/onroad/optionnox/optionnox.htm.

Attachment - 1

6. In construction contracts, include language that requires all construction equipment and fleets to be in compliance with all current air quality regulations. CARB staff is available to assist in implementing this recommendation.

Recommended Operation Measures

1. Include contractual language in tenant lease agreements that requires tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site.

2. Include contractual language in tenant lease agreements that requires all loading/unloading docks and trailer spaces be equipped with electrical hookups for trucks with transport refrigeration units (TRU) or auxiliary power units. This requirement will substantially decrease the amount of time that a TRU powered by a fossil-fueled internal combustion engine can operate at the project site. Use of zero-emission all-electric plug-in TRUs, hydrogen fuel cell transport refrigeration, and cryogenic transport refrigeration are encouraged and can also be included lease agreements.[2]

3. Include contractual language in tenant lease agreements that requires all TRUs entering the project site be plug-in capable.

4. Include contractual language in tenant lease agreements that requires future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.

5. Include contractual language in tenant lease agreements requiring all TRUs, trucks, and cars entering the Project site be zero-emission.

6. Include contractual language in tenant lease agreements that requires all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission. This equipment is widely available.

7. Include contractual language in tenant lease agreements that requires all heavy-duty trucks entering or on the project site to be model year 2014 or later today, expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2030.

A1-h Contd.

[2] CARB's Technology Assessment for Transport Refrigerators provides information on the current and projected development of TRUs, including current and anticipated costs. The assessment is available at: https://www.arb.ca.gov/msprog/tech/techreport/tru_07292015.pdf.

Attachment - 2

8. Include contractual language in tenant lease agreements that requires the tenant be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation,[3] Periodic Smoke Inspection Program (PSIP),[4] and the Statewide Truck and Bus Regulation.[5]

9. Include contractual language in tenant lease agreements restricting trucks and support equipment from idling longer than five minutes while on site.

10. Include contractual language in tenant lease agreements that limits on-site TRU diesel engine runtime to no longer than 15 minutes. If no cold storage operations are planned, include contractual language and permit conditions that prohibit cold storage operations unless a health risk assessment is conducted and the health impacts fully mitigated.

11. Include rooftop solar panels for each proposed warehouse to the extent feasible, with a capacity that matches the maximum allowed for distributed solar connections to the grid.

A1-h Contd.

[3] In December 2008, CARB adopted a regulation to reduce greenhouse gas emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation is available at: https://www.arb.ca.gov/cc/hdghg/hdghg.htm.

[4] The PSIP program requires that diesel and bus fleet owners conduct annual smoke opacity inspections of their vehicles and repair those with excessive smoke emissions to ensure compliance. CARB's PSIP program is available at: https://www.arb.ca.gov/enf/hdvip/hdvip.htm.

[5] The regulation requires newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. CARB's Statewide Truck and Bus Regulation is available at: https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

Attachment - 3

CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, CA 90755

February 19, 2020

Department of Development Services, Planning Bureau
ATTN: Scott Kinsey, Planner V
411 W. Ocean Boulevard, 3rd Floor
Long Beach, CA 90802

Subject: Notice of Availability of Draft Environmental Impact Report (EIR) for the Spring Street Business Park Project (SCH No. 2019100514)

Scott,

This letter and the attached responses from the City of Signal Hill (the City) contract Traffic Engineer represents the City's formal response to the request for public comment on the subject EIR. It should be noted that Orange Avenue is a City of Signal Hill Street between Hill Street and Spring Street. Given that, the City has been in formal and informal communication with you and your Public Works staff regarding the proposed design of the City streets, signalization, project access, truck circulation, and related public improvements since 2018. Our most recent comments on the EIR dated February 20, 2020, with minor edits for clarification following recent design discussions are attached (Attachment A). A2-a

Since circulation of the EIR our Planning and Public Works staff have participated in multiple meetings regarding the proposed street improvements and related items. We will continue to make ourselves available to resolve design discrepancies but at this time cannot support the project as proposed and will not be able to issue permits for the proposed street improvements since they do not concur with the City's General Plan for Orange Avenue and Spring Street, or the City's Circulation Element, Bike Master Plan for Orange Avenue and Spring Street. A2-b

Regards,

Colleen T. Doan
Community Development Director

Agency: City of Signal Hill

Letter Code: A2

Commenter: Colleen T. Doan

Date: February 19, 2020

A2-a This comment summarizes the communication that the City of Signal Hill and the City of Long Beach have engaged in since 2018 during project planning related to design of city streets, signalization, project access, truck circulation, and related public improvements. As stated in the comment, the segment of Orange Avenue between Hill Street and Spring Street is within the jurisdiction of the City of Signal Hill. The City of Signal Hill's issues are detailed in the following letter and addressed below.

A2-b The comment states that the City of Signal Hill cannot support the project as proposed and will not be able to issue permits for the proposed street improvements. However, since this letter was sent, the City of Signal Hill and the City of Long Beach have worked collaboratively to resolve issues related to proposed street improvements planned by the City of Long Beach on Orange Avenue and/or Spring Street and design discrepancies that do not concur with the City of Signal Hill's General Plan, Circulation Element, and Bike Master Plan for these streets. See Appendix H to this Final EIR, which documents the agreement reached for circulation improvements between the cities of Long Beach and Signal Hill, as well as the City of Signal Hill's support. Appendix H includes the City of Long Beach Public Works Department's Technical Advisory Committee project requirements, the agreed upon refined conceptual street cross section for Orange Avenue, and email correspondence from the City of Signal Hill concurring with the changes.

February 20, 2020

Mr. Scott Kinsey
Long Beach Development Services
411 W. Ocean Blvd., 3rd floor
Long Beach, CA 90802

Re: DRAFT EIR Spring Street Business Park Project – Section 3.5 Transportation
City of Signal Hill Transportation Comments

Dear Mr. Kinsey:

The City of Signal Hill have received Section 3.5 Transportation of the DRAFT EIR. Provided below are the review comments from the City of Signal Hill. In addition, we have attached the Traffic Safety Letter dated December 12, 2019 since the comments are still applicable. A2-c

Our review comments are specific to Section 3.5 Transportation and the attached Appendix E, Traffic Impact Analysis.

3.5 Transportation

1. 3.5.2 – Spring Street speed limit varies at the project site 40 and 45 MPH. A2-d
2. 3.5.2 – Orange Avenue is currently 4 lanes from Spring Street to Willow Street. A2-e
3. Table 3.5-2 – The LOS should be re-verified based upon these comments. A2-f
4. Note: Orange Avenue from Spring Street to Willow Street is in the jurisdiction of Signal Hill except the curb line. The City does not have any intentions of installing a Class IV bike facility or reducing the number of lanes from four to two. A2-g
5. Note: the traffic signal proposed at the Orange Avenue Driveway is not warranted and therefore cannot be supported by the City. A2-h
6. A discussion of impacts to the trip distribution (including trucks) and intersections caused by the removal of the traffic signal. In addition, the discussion shall include the re-routing of truck traffic to Spring Street from the driveway located on Orange, since Orange Avenue is not a truck route. A2-i
7. If left turns are permitted at the Orange Avenue Driveway, then a northbound dual left turn on Orange Avenue at Spring may be required to maintain adequate left turn storage/queuing. A2-j
8. If a right turn only requirement is placed upon the Orange Avenue driveway, the project's truck traffic will be directed to southbound Orange Avenue to Willow Street. Again, this segment of Orange is not a designated truck route. Therefore, the project proponents would be responsible for updating southbound Orange Avenue to Willow Street to truck route standards including paving upgrade requirements. A2-k
9. An analysis is required of the Spring Street and Orange Avenue intersection caused by the re-routing of truck traffic to northbound Orange Avenue, including left turn storage lengths and LOS. A2-l
10. Add a discussion on the truck distribution (where destination and origins) to fully understand the project impacts to the roadway system. A2-m
11. Please note proposed bike facilities in Signal Hill consists of Class 2 south on Spring Street on Orange Avenue, Class 2 on Spring Street, and Class 3 north of Caltrans ROW. A2-n
12. Existing Orange Avenue Class 3 shall be acknowledged and requires a transition from any project bike facility to be transitioned into the Class 3 with appropriate signage. Note that there are no roadway shoulders south of the project. Because of the safety concerns from directing users of A2-o

WGZE

W.G. Zimmerman Engineering, Inc.
17011 Beach Boulevard, Suite 1240
Huntington Beach, CA 92647
Phone: 714-799-1700 Fax: 714-333-4712

A2-c The City of Signal Hill reviewed Section 3.5 Transportation of the Draft EIR and provides a list of comments below. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for the decision makers. No further response is required.

A2-d This comment provides clarification on the posted speed limit on Spring Street. The speed limit varies along Spring Street. West of Orange Avenue the posted speed limit is 40 miles per hour and east of Orange Avenue the posted speed limit is 45 miles per hour. The text on page 3.5-1 of Section 3.5, Transportation, has been modified as follows:

- **Spring Street** is a four-lane, divided roadway oriented in the east-west direction. The speed limit is 40 miles per hour west of Orange Avenue and 45 miles per hour east of Orange Avenue. Parking is not permitted on either side of the roadway west of Orange Avenue; however, parking is permitted on both sides of the roadway east of Orange Avenue.

A2-e The comment states that Orange Avenue is currently 4 lanes from Spring Street to Willow Street. At the time of project initiation in 2018, Orange Avenue between Spring Street and 29th Street provided two northbound through lanes, a single southbound through lane, and a two-way left-turn lane. For the section of Orange Avenue between 29th Street and Willow Street, a single lane in both the northbound and southbound direction separated by a two-way left-turn land existed. It is acknowledged that recent improvements to Orange Avenue have resulted in the provision of two-lanes in each direction from Spring Street to Willow Street; however, the baseline conditions in the 2019 Traffic Impact Analysis (TIA) are not recommended to be updated, as the minor network modifications would not change the analysis or conclusions of the traffic study. The comment will be made available for the decision makers. No further response is required.

	A2-f The comment recommends the level of service be re-verified based on comment A2-e. The level of service calculations provided in the 2019 TIA are accurate according to the baseline traffic conditions established upon initiation of the project. As a result of the recent roadway modifications on Orange Avenue, there is additional capacity through the study locations. Therefore, the conclusions in the 2019 TIA are considered to be conservative and worse case, and hence no revisions to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required. **A2-g** This comment states that the City of Signal Hill is not supportive of a Class IV (Protected Bike Lane) bikeway or reducing the ultimate cross section of Orange Avenue from four lanes to two lanes which are a part of the City of Long Beach plans to implement a Class IV bikeway along Orange Avenue within the study area. However, based on recent collaborative efforts between both cities, a compromise has been reached (Appendix H), which allows for the following modifications to the intersection of Orange Avenue and Spring Street: provide two through lanes in the northbound and southbound directions, dual northbound left-turn lanes and a separate northbound right turn lane, while providing a single left-turn lane, a through and shared through-right turn lane on the southbound approach. As a result, this comment is no longer applicable. See the refined conceptual street cross section for Orange Avenue in Appendix H, prepared by the City of Long Beach and conceptually accepted by the City of Signal Hill with comments noted. Further, the concept agreed upon between the cities was already considered as part of the 2019 TIA with the exception that a dedicated northbound right-turn lane is now included. Since this proposed improvement is considered to be a capacity enhancement to the prior plan, the findings identified in the 2019 TIA are considered conservative and worse case, and hence, no changes to

		the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.
	A2-h	The comment states that a traffic signal is not warranted at the proposed project's Orange Avenue Driveway. The 2019 TIA concluded that a traffic signal is not warranted at the project driveway along Orange Avenue; however, due to frequent truck utilization a signal was recommended to minimize conflicts with truck ingress/egress and other motorists. The City of Signal Hill is not in support of signalizing this intersection. Since the 2019 TIA identifies that there is adequate storage and service levels to accommodate added demand, the City of Long Beach and the City of Signal Hill recommend that the project driveway located along Orange Avenue be constructed as an unsignalized intersection. As shown on the refined conceptual street cross section in Appendix H, the northbound direction would provide a dedicated left-turn lane and two through lanes. The southbound direction consists of a through lane and a shared through/right turn lane. The outbound direction will consist of a shared left/right turn lane. As shown in the LOS worksheets in Appendix H, the resulting service levels for buildout plus project traffic conditions are forecast to operate at LOS C for both the AM and PM peak hour. Therefore, traffic into and out of the project driveway on Orange Avenue will function adequately without undue congestion. The text on page 2-5 of Chapter 2, Project Description, has been revised to remove reference to the two-phase traffic signal at the project driveway at Orange Avenue.
	A2-i	The comment states that a discussion of impacts to the trip distribution and intersections caused by the removal of the traffic signal in comment A2-h is needed and states that trucks should be rerouted from Orange Avenue since Orange Avenue is not a truck route. Because the project driveway located along Orange Avenue is now proposed to be an unsignalized driveway (and turn movements are not expected to be restricted), during the weekday

		commute hours truck-related traffic may choose to turn right when exiting the site instead of turning left due to traffic flow on Orange Avenue. Additionally, truck traffic may choose to exit the site via the driveway on Spring Street. This potential change in exiting patterns as a result of removing the previously proposed traffic signal at the project's main entrance, would result in up to 17 peak hour truck trips having to alter their exiting pattern from what was reported in the 2019 TIA. This change (one trip every three minutes over the peak hour) is considered nominal and would have little effect on the surrounding street system and not likely affect the operating conditions of the study intersections as reported in the 2019 TIA. Therefore, no changes to the 2019 TIA have been made. It is not uncommon for industrial uses to have access off roads that are not classified as a truck route. In general, the jurisdiction will typically allow trucks to utilize these facilities to allow for direct access to other truck routes and/or access to the freeway system. As such, the applicant will work with the City of Long Beach and City of Signal Hill to ensure trucks utilize all truck routes and take the most direct route to/from the project driveways. The comment will be made available for the decision makers. No further response is required.
	A2-j	The comment states that if left turns are permitted at the Orange Avenue driveway, then a northbound dual left turn on Orange Avenue at Spring Street may be required. The refined conceptual street cross section agreed upon between the City of Long Beach and City of Signal Hill (Appendix H) includes dual northbound left-turn lanes at Orange Avenue and Spring Street. Therefore, this comment is no longer applicable based on the refined conceptual street cross section (Appendix H). The comment will be made available for the decision makers. No further response is required.
	A2-k	Please see response to comment A2-h and A2-j regarding the traffic signal and truck routes.

	A2-l This comment states that an analysis of the Spring Street and Orange Avenue intersection is needed because of the rerouting of truck traffic to northbound Orange Avenue. As a result of the refined conceptual street cross section agreed upon between the City of Long Beach and City of Signal Hill this comment is no longer valid (Appendix H). No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required. **A2-m** The comment states that a discussion of the truck distribution is needed to fully understand the project impacts on the roadway system. Truck distribution for the project is forecast to be freeway focused. As a result, the truck distribution pattern presented in the 2019 TIA shows that 40% of the inbound/outbound trips utilizing the western region via I-405 and 40% of the inbound/outbound trips utilizing the eastern region via I-405. Additionally, the 30% traveling along Spring Street is anticipated to use this street as a freeway by-pass but are anticipated to access the I-405 further down the street. No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required. **A2-n** This comment clarifies the proposed City of Signal Hill bike facilities in the study area. Per the City of Signal Hill Bicycle Master Plan, a Class II bike lane is proposed on Orange Avenue south of Spring Street, a Class II bike lane is proposed on Spring Street, and a Class III bike route is proposed on Orange Avenue north of Caltrans ROW within the City of Signal Hill. The text on page 3.5-2 of Section 3.5, Transportation, has been modified as follows: Both the City of Long Beach and the City of Signal Hill classify Orange Avenue as a Class III bikeway; however, the City of Signal Hill specifies the Class III bikeway is north of the Caltrans ROW within the City

	of Signal Hill and classifies Orange Avenue as a Class II bike lane south of Spring Street. **A2-o** This comment requests a transition of bike facilities to have appropriate signage. As a result of the refined conceptual street cross section agreed upon between the City of Long Beach and City of Signal Hill this comment is no longer valid (Appendix H). No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.

the class 4 lane to a sharing a travel lane with vehicles in a posted 40 MPH zone, the City of Signal Hill does not support the construction of the southbound Class 4 along the project frontage at this time. A2-o Contd

13. All street lanes in the City of Signal Hill shall be 12 feet, medians shall be 14 feet. A2-p

LLG Traffic Impact Study

1. Page 7: the project discussion shall be revised to reflect the current lane configuration of 4 lanes (two lanes in each direction) with a two way left turn (or, left turn pocket) median. A2-q
2. Page 8: note that the traffic counts were taken during college summer recess and no adjustments were added. A2-r
3. Page 13: Table 3-3, Intersection 9 – Cherry and Spring LOS is inconsistent with other recent traffic studies. This intersection typically has a LOS of C/D). A2-s
4. Page 19: Section 5.2, the trip distribution shows trucks going south on Orange Avenue. This is not a truck route and shall be amended. A2-t

If you have any questions, please do not hesitate to contact me at 714-799-1700 ext. 100.

Respectfully submitted,
W.G. Zimmerman Engineering, Inc.,

Bill Zimmerman PE, TE, PTOE
President

CC: Kelli Tunnicliff, Public Works Director, Signal Hill
Steve Badum, City Engineer, Signal Hill
Carl Hickman, City Traffic Engineer, Long Beach
Josh Hickman, Traffic Engineer, Long Beach

WGZE

W.G. Zimmerman Engineering, Inc.
17011 Beach Boulevard, Suite 1240
Huntington Beach, CA 92647
Phone: 714-799-1700 Fax: 714-333-4712

A2-p The comment requests specific widths for street lanes and medians. As a result of the refined conceptual street cross section agreed upon between the City of Long Beach and City of Signal Hill this comment is no longer valid (Appendix H). No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.

A2-q Please see response to comment A2-e. Section 3.1 of the 2019 TIA is intended to be used as a general reference for roadway characteristics. Given the recent roadway conditions on Orange Avenue results in additional capacity through the study locations, the conclusions in the 2019 TIA are considered to be conservative and worse case, and hence no revisions to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.

A2-r The comment states the traffic counts in the 2019 TIA were conducted during college summer recess. The counts in the 2019 TIA were conducted in March and May 2018 while nearby schools and colleges were still in session. No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.

A2-s The comment states the level of service at the intersection of Cherry Avenue and Spring Street is incorrect. The traffic consultant reviewed the level of service results for Cherry Avenue at Spring Street and concluded the results are considered adequate based on existing traffic counts, current intersection configuration, and the ICU method of analysis. No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.

A2-t The comment states that Orange Avenue is not a truck route and suggests the trip distribution be revised. Willow Street is considered a truck route that could be used to

	service the site. Similar to response to comment A2-i, it is not uncommon for industrial uses to have access off roads that are not classified as a truck route. In general, the jurisdiction will typically allow trucks to utilize these facilities to allow for direct access to other truck routes. As such, the applicant will work with the City of Long Beach and City of Signal Hill to ensure trucks utilize all truck routes and take the most direct route to/from the project driveways. No changes to the 2019 TIA are recommended. The comment will be made available for the decision makers. No further response is required.

December 12, 2019

Mr. Scott Kinsey
Long Beach Development Services
411 W. Ocean Blvd., 3rd floor
Long Beach, CA 90802

Re: Orange Avenue and Spring Street Intersection Improvements

Dear Mr. Kinsey:

We have reviewed the Orange Avenue and Spring Street Proposed Alternatives plans: 12-1, 12-2, and 12-3. Additionally, we compared these plans to the City of Signal Hill's concept plan for the intersection since Orange Avenue is a City of Signal Hill Street between Hill Street and Spring Street.

We understand that these plans will be used for the environmental document for the site located at the southwest corner of the intersection of Orange Avenue and Spring Street. However, the City of Signal Hill cannot support any of the alternatives for the environmental document for the following reasons:

1. The Alternatives presented do not concur with the City's General Plan for Orange Avenue and Spring Street. The City's Circulation Element's Bike Master Plan includes Orange Avenue as a Class 3 Bike Route and Spring Street as a Class 2 Bike Lane.
2. The City's concept plan for Orange Avenue and the intersection of Orange Avenue and Spring Street includes widening of Orange Avenue for two northbound and southbound travel lanes with Class 2 Bike lanes. At the intersection of Orange Avenue and Spring Street, the northbound direction includes dual left turn lanes with approximately 200 feet of storage, two thru lanes, and a right turn lane. The minimum lane widths include 11 feet for the left turn pocket, 12 feet for the thru lanes, 10 feet for the right turn lane and 5 feet for the Class 2 Bike lanes. Spring Street will include a Class 2 Bike Lane and a parking lane. All three of the Development's Alternatives do not meet these standards.
3. The signal warrants provided in the Traffic Study for the project do not require a traffic signal at the driveway for the development south of Spring Street. In addition, the proposed signal location to the intersection signal at Spring Street would cause a safety concern with possible traffic backing up into the intersection for Spring Street for southbound Orange Avenue traffic.
4. The Spring Street bike lane and travel lanes widths do not conform to the proposed Class 2 bike lane with parking. Spring Street east of Orange Avenue is within the City of Signal Hill, with the exception of the north curb face and adjacent street paving. The City of Signal Hill is planning on installing a Class 2 bike lane and a parking lane from Orange Avenue to Junipero Avenue.
5. Alternative 12-3 does not meet the City Development requirements of "full one-half" roadway build-out along the frontage of the development.

Each Alternative is specifically addressed below:

Alternative 12-1

- A traffic signal is proposed at the driveway of the development on Orange Avenue. The traffic signal is not warranted and may cause a traffic safety concern because of the proximity to the signalized intersection of Orange Avenue and Spring Street. The City will not endorse a traffic signal at this location.

A2-u

WGZE

W.G. Zimmerman Engineering, Inc.
17011 Beach Boulevard, Suite 1240
Huntington Beach, CA 92647
Phone: 714-799-1700 Fax: 714-333-4712

A2-u See responses to comments A2-b through A2-t above. Given the refined conceptual street cross section for Orange Avenue has been developed and agreed upon by both the City of Long Beach and City of Signal Hill, the comments noted are no longer applicable (Appendix H). The comment will be made available for the decision makers. No further response is required.

- The skewed angle of the southbound lanes (north of the Spring Street) connecting across the intersection to Orange Avenue south of the intersection is very extreme and does not meet the Caltrans Highway Design Manual for offset lanes.
- Proposed street widths must meet the City's minimum requirements proposed in the City Concept Plan for Orange Avenue.
- The City of Signal Hill does not use Class 4 Bike Lanes only Class 2, and Class 3 Bike Routes.
- The Proposed southbound taper shall occur after the south property lie extended onto Orange Avenue. The Developer is fully responsible for the full one-half width roadway build-out along the frontage of the property on Orange Avenue.

Alternative 12-2

- A traffic signal is proposed at the driveway of the development on Orange Avenue. The traffic signal is not warranted and may cause a traffic safety concern because of the proximity to the signalized intersection of Orange Avenue and Spring Street. The City will not endorse a traffic signal at this location.
- The proposed Class 4 Bike lanes on both Orange Avenue and Spring Street to not conform to the City's General Plan. The City of Signal Hill does not use Class 4 Bike Lanes only Class 2, and Class 3 Bike Routes.
- Two northbound and two southbound lanes on Orange Avenue are required. This Alternative does not meet the standard.
- The City of Signal Hill does not use Class 4 Bike Lanes only Class 2, and Class 3 Bike Routes.
- The Alternative does not meet the left turn pocket length of 200 feet of storage length.

Alternative 12-3

- A traffic signal is proposed at the driveway of the development on Orange Avenue. The traffic signal is not warranted and may cause a traffic safety concern because of the proximity to the signalized intersection of Orange Avenue and Spring Street. The City will not endorse a traffic signal at this location.
- The proposed Class 4 Bike lanes on both Orange Avenue and Spring Street to not conform to the City's General Plan. The City of Signal Hill does not use Class 4 Bike Lanes only Class 2, and Class 3 Bike Routes.
- Two northbound and two southbound lanes on Orange Avenue are required. This Alternative does not meet the standard.
- The Alternative does not meet the left turn pocket length of 200 feet of storage length.
- The Proposed southbound taper shall occur after the south property lie extended onto Orange Avenue. The Developer is fully responsible for the full one-half width roadway build-out along the frontage of the property on Orange Avenue.

A2-u Contd.

If you have any questions, please do not hesitate to contact me at 714-799-1700 ext. 100.

Respectfully submitted,
W.G. Zimmerman Engineering, Inc.,

Bill Zimmerman PE, TE, PTOE
President

CC: Kelli Tunnicliff, Public Works Director, Signal Hill
Steve Badum, City Engineer, Signal Hill
Carl Hickman, City Traffic Engineer, Long Beach
Josh Hickman, Traffic Engineer, Long Beach

WGZE

W.G. Zimmerman Engineering, Inc.
17011 Beach Boulevard, Suite 1240
Huntington Beach, CA 92647
Phone: 714-799-1700 Fax: 714-333-4712

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7 – Office of Regional Planning
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0475
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

February 20, 2020

Mr. Scott Kinsey
City of Long Beach
411 West Ocean Boulevard
Long Beach, CA 90802

RE: Spring Street Business Park Project – Draft Environmental Impact Report (DEIR)
SCH # 2019100514
GTS # 07-LA-2019-03082
Vic. LA-405/PM: 5.447

Dear Mr. Scott Kinsey:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced DEIR. The project is a proposed business park complex with off-site street improvements along Spring Street and Orange Avenue, and park enhancements. The proposed business park would consist of a total of 160,673 square-feet (SF) of floor area within three concrete "tilt-up" buildings. The anticipated mix of land uses includes manufacturing and warehousing. The project is proposing to provide 162 standard surface lot parking stalls, 8 trailer spaces, and 18 loading docks. Project improvements are consistent with the land use and development standards of its zoning district. The City of Long Beach is considered the Lead Agency under the California Environmental Quality Act (CEQA).

The nearest State facilities to the proposed project are Interstate 405 (I-405), which is located approximately 500 feet from the project, State Route 1 (SR-1), which is located approximately 1.5 miles away from the project, and Interstate 710 (I-710), which is located approximately 2 miles from the project.

Caltrans, the City, the environmental consultants HDR, and the transportation consultants Linscott, Law & Greenspan, Engineers have been engaging in discussions about this project over calls and emails since November 2019. Based on those conversations and the DEIR, Caltrans has the following comments: A3-a

- Caltrans' review of the queuing and blocking analysis worksheets for the Orange Avenue and Spring Street intersection (i.e., Intersection 7) under the Year 2021 and Year 2038 Cumulative Plus Project Traffic Conditions with Mitigation scenarios, shows that regardless of whether the Orange Avenue bikeway improvements are implemented, the southbound through movement queue length at this intersection will extend past the Orange Avenue and I-405 Southbound Ramps intersection (i.e., Intersection 3). This queuing on Orange Avenue could prevent vehicles from exiting the I-405 Southbound Off-Ramp, which could in turn cause queues on the off-ramp. Caltrans is concerned that these queues could then spillover onto the I-405 mainline segment, which would increase the potential for transportation conflicts on the I-405. A3-b
- To mitigate the previously described potential impacts on the I-405, Caltrans supports installing a three-phase traffic signal at the Orange Avenue and I-405 Southbound Ramps intersection. We have reviewed the fair share percentages proposed in Table 12-1 of the Traffic Impact Analysis (TIA) for this mitigation measure and agree that 12.43% is appropriate. To ensure a streamlined process, Caltrans encourages the project's developer to work with Caltrans early on developing a mitigation agreement for contributing 12.43% towards the installation of a traffic A3-c

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Agency: California Department of Transportation (Caltrans)

Letter Code: A3

Commenter: Miya Edmonson

Date: February 20, 2020

A3-a This comment summarizes the project description and identifies the nearest State facilities to the proposed project. The comment also summarizes the discussions between Caltrans, the City of Long Beach, the environmental consultant, and the transportation consultant. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for the decision makers. No further response is required.

A3-b The comment summarizes the queuing and blocking analysis worksheets for the Orange Avenue and Spring Street intersection. The results of the intersection analysis for Orange Avenue at Spring Street, as reported in the appendix materials to the 2019 TIA, do indicate that forecast vehicular queues lengths with or without the implementation of the City of Long Beach proposed Orange Avenue Bikeway Improvements project would extend past the Orange Avenue and I-405 Southbound Ramps intersection (i.e. Intersection 3). The issue raised in this comment is further addressed in responses to comments A3-c and A3-d below.

A3-c The comment is in support of installing a three-phase traffic signal at the intersection of Orange Avenue and I-405 Southbound Ramps to mitigate the impact identified in comment A3-b. The installation of a three-phase traffic signal was identified in the Draft EIR as Mitigation Measure TRAN-4 without Orange Avenue Bikeway Improvements and Mitigation Measure TRAN-5 with Orange Avenue Bikeway Improvements. The Draft EIR concluded that these mitigation measures would reduce the impact; however, Mitigation Measures TRAN-4 and TRAN-5 are

	subject to approval by and are the responsibility of another agency (Caltrans) and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, these impacts are considered significant and unavoidable. Caltrans suggestion that the project developer work with the state on developing a mitigation agreement for contributing 12.43% towards the installation of a traffic signal at this location will be provided to the decision makers and the project applicant for consideration. However, since these improvements are not currently planned or funded, the conclusions in the EIR remain significant and unavoidable. Furthermore, no such Caltrans fee program supported by a proper nexus-study exists at this time.

Mr. Scott Kinsey
February 20, 2020
Page 2 of 2

A3-c Contd.

signal at the Orange Avenue and I-405 Southbound Ramps intersection.

A3-d

- While Caltrans agrees that a traffic signal at the Orange Avenue and I-405 Southbound Ramps intersection could mitigate impacts on the I-405, it is concerned that even after the signal is installed, there will be an increased potential for transportation conflicts on Orange Avenue and the Route 405 Southbound Off Ramp at Orange Avenue due to the traffic generated from this project as well as the proposed bike lane project. In the spirit of cooperation and to best serve the public's interest, Caltrans encourages the City of Long Beach to work with us on identifying other mitigation measures that can be implemented to decrease the potential of such conflicts, including signal timing modifications.

A3-e

The following information is included for your consideration. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. Furthermore, Caltrans encourages the Lead Agency to integrate transportation and land use in a way that reduces Vehicle Miles Traveled (VMT) and Greenhouse Gas (GHG) emissions, as well as facilitates a high level of non-motorized travel and transit use. Thus, Caltrans supports the Transportation Demand Management (TDM) strategies this project has incorporated, such as providing new crosswalks at project site entrances and a new sidewalk on the section of Orange Avenue adjacent and east of the project site. The project also provides no more parking than required, which is another effective TDM measure. Additional TDM strategies that the City of Long Beach may want to consider integrating into this project are included in our response letter to the Notice of Preparation (NOP) for this project. Please make every attempt to reduce VMT. For additional TDM options that can reduce VMT that were not already stated in our response to the NOP, please refer to:

- The 2010 *Quantifying Greenhouse Gas Mitigation Measures* report by the California Air Pollution Control Officers Association (CAPCOA), available at http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, or
- *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8) by the Federal Highway Administration (FHWA), available at https://ops.fhwa.dot.gov/publications/fhwahop12035/index.htm

A3-f

Also, any transportation of heavy construction equipment or materials that requires use of oversized-transport vehicles on State highways will need a Caltrans transportation permit. If construction traffic is expected to cause delays on any State facilities, please submit a construction traffic management plan detailing these delays for Caltrans' review. Caltrans also recommends that the project limit construction and operational truck traffic to off-peak periods to minimize the potential impact on State facilities.

In addition, encroachment permits are required for any project on or near Caltrans right of way. However, this decision will be subject to additional review by the Office of Permits.

Finally, storm water run-off is a sensitive issue for Los Angeles county. Please be mindful that the project needs to be designed to discharge clean run-off water.

If you have any questions about these comments, please contact Emily Gibson, the project coordinator, at Emily.Gibson@dot.ca.gov, and refer to GTS# 07-LA-2019-03082.

Sincerely,

MIYA EDMONSON
IGR/CEQA Branch Chief
cc: Scott Morgan, State Clearinghouse

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

A3-d The comment encourages the City of Long Beach to work with Caltrans on identifying additional mitigation measures that could be implemented to decrease the potential of vehicular queues on the I-405 SB off-ramp from backing up onto the I-405 Freeway, including signal timing modification. The comment will be made available for the decision makers. No further response is required.

A3-e The comment provides additional information for consideration including additional Transportation Demand Management (TDM) strategies. The comment acknowledges the TDM strategies already proposed as part of the project, including sidewalk improvements in the study area and providing no more parking than required. The comment will be made available for the decision makers. No further response is required

A3-f The comment states that any transportation of heavy construction equipment or materials which require use of oversized-transportation vehicles on state highways would need a Caltrans transportation permit. The comment recommends large size truck trips be limited to off-peak commute periods. The comment further states that an encroachment permit is required for projects on or near Caltrans ROW.

Caltrans oversized vehicle permits are standard and apply to any operator traveling on Caltrans facilities and the issue is not applicable to the CEQA impact analysis process; however, the applicant will comply with Caltrans regulations and apply for applicable permits. Further, the applicant will follow best practices for off-peak deliveries and large size truck trips.

The comment also states that stormwater is a sensitive issue for Los Angeles County. Mitigation Measure HWQ-1 would be implemented, which requires compliance with NPDES requirements and local regulations.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL AND USPS:
Scott.Kinsey@longbeach.gov
Scott Kinsey, Planner V
City of Long Beach, Development Services Department
411 West Ocean Boulevard, 3rd Floor
Long Beach, CA 90802

February 20, 2020

Draft Environmental Impact Report (Draft EIR) for the Proposed Spring Street Business Park Project (SCH No. 2019100514)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final EIR.

South Coast AQMD Staff's Summary of Project Description

The Lead Agency proposes to construct 160,673 square feet of non-refrigerated[1] warehouses on 7.8 acres (Proposed Project). The Proposed Project is located on the southwest corner of Spring Street and Orange Avenue in the City of Long Beach. Construction of the Proposed Project is anticipated to occur over nine months[2]. Once operational, the Proposed Project will have 18 loading docks[3] and involve 126 daily truck trips[4]. Based on reviews of Figure 2-1: *Regional Vicinity and Project Location* in the Draft EIR and aerial photographs, South Coast AQMD staff found that the Proposed Project is surrounded by recreational, commercial, and industrial uses[5]. A4-a

South Coast AQMD Staff's Comments

The Proposed Project involves operation of warehouse uses, which are expected to cause 126 truck trips per day. Diesel particulate matter (DPM) will be emitted from the transportation and idling of trucks visiting the Proposed Project. DPM has been identified by the California Air Resources Board (CARB) as a toxic air contaminant based on its carcinogenic effects[6]. However, based on reviews of the Draft EIR and supporting technical documents, South Coast AQMD staff found that the Lead Agency did not perform a mobile source health risk assessment (HRA) analysis in the Draft EIR. One of the basic purposes of CEQA is to inform decision-makers and the public about the potential, significant environmental effects of proposed activities (CEQA Guidelines Section 15002(a)(1)). The decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency (CEQA Guidelines Section 15064(f)). Therefore, South Coast AQMD staff recommends that the Lead Agency perform a mobile source HRA analysis[7] in the Final EIR and compare cancer risk to South Coast AQMD's CEQA significance threshold of 10 in one million for cancer risk to determine the level of significance for the Proposed Project's health risk impacts. This analysis serves as substantial evidence to support the Lead Agency's finding that operation of the Proposed Project will not result in significant health risk impacts. A4-b

[1] Draft EIR. Page. 2-4.
[2] *Ibid.* Page 2-10.
[3] *Ibid.* Page 1-1.
[4] *Ibid.* Appendix E. Page 18
[5] *Ibid.* Page 2-2.
[6] CARB. August 27, 1998. Resolution 98-35. Accessed at: http://www.arb.ca.gov/regact/diesltac/diesltac.htm.
[7] South Coast AQMD. *Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*. Accessed at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.

Agency: South Coast Air Quality Management District

Letter Code: A4

Commenter: Lijin Sun

Date: February 20, 2020

A4-a This comment summarizes the project description. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for the decision makers. No further response is required.

A4-b Please see response to comment A1-c for a detailed health risk assessment of the proposed project's construction and operational emissions.

Scott Kinsey February 20, 2020

Conclusion
Pursuant to California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(b), South Coast AQMD staff requests that the Lead Agency provide South Coast AQMD staff with written responses to all comments contained herein prior to the certification of the Final EIR. In addition, issues raised in the comments should be addressed in detail giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (CEQA Guidelines Section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision makers and to the public who are interested in the Proposed Project.

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please feel free to call me at (909) 396-3308 if you have questions or wish to discuss the comments. A4-c

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
LAC200220-03
Control Number

2

A4-c This comment states that the lead agency, the City of Long Beach, should respond to all comments pursuant to California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(b). A good faith, reasoned analysis has been provided in this Response to Comments chapter of the Final EIR. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for the decision makers. No further response is required.

GABRIELENO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

January 10, 2020

Project Name: Spring St. Business Park Project located: 2851 Orange Ave Long Beach CA

Dear Scott Kinsey,

Thank you for your letter dated November 12, 2019 regarding AB52 consultation. The above proposed project location is within our Ancestral Tribal Territory; therefore, our Tribal Government requests to schedule a consultation with you as the lead agency, to discuss the project and the surrounding location in further detail.

Please contact us at your earliest convenience. ***Please Note:AB 52, "consultation" shall have the same meaning as provided in SB 18 (Govt. Code Section 65352.4).***

O1-a

Thank you for your time,

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians – Kizh Nation
1(844)390-0787

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Dr. Christina Swindall Martinez, secretary
Albert Perez, treasurer I | Martha Gonzalez Lemos, treasurer II | Richard Gradias, Chairman of the council of Elders

PO Box 393 Covina, CA 91723 admin@gabrielenoindians.org

Organization: Gabrieleno Band of Mission Indians – Kizh Nation

Letter Code: O1

Commenter: Andrew Salas

Date: January 10, 2020

O1-a Tribal cultural resources and the communication with Chairman Salas are discussed in Section XVIII of the Initial Study and documented in Appendix C to the Initial Study (Appendix A to the Draft EIR). Chairman Salas reviewed the mitigation measures in March of 2019 and the cultural resources mitigation measures reflect input from the Gabrieleno Band of Mission Indians.

From: Scott Kinsey
To: Vick, Jenny
Cc: Gnibus, Tim
Subject: FW: Spring St. Business Park Project located: 2851 Orange Ave Long Beach CA
Date: Thursday, January 30, 2020 7:43:39 AM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.jpg
image006.jpg

Jenny,

Per the below, we are good on AB-52 tribal consultation for the project.

Scott Kinsey, AICP
Planner V

Long Beach Development Services | Planning Bureau
411 W. Ocean Blvd., 3rd Fl. | Long Beach, CA 90802
Office: 562-570-6461
LBDS Email Signature

From: Administration Gabrieleno <admin@gabrielenoindians.org>
Sent: Thursday, January 30, 2020 12:40 AM
To: Matthew Teutimez <Matthew.Teutimez@gabrielenoindians.org>; Scott Kinsey <Scott.Kinsey@longbeach.gov>
Subject: Re: Spring St. Business Park Project located: 2851 Orange Ave Long Beach CA

Hello Scott
Thank you for your response. We agree to the mitigation's in section TCR-1 great job . Thank you
Tribal Cultural Resources
TCR-1: Native American Monitoring
Prior to issuance of any Grading Permit for the project, the Project

On Tue, Jan 21, 2020 at 2:28 PM Scott Kinsey <Scott.Kinsey@longbeach.gov> wrote:

> Hello,
>
> Please see the attached, which we received from you around 3/14/19 on this project.
>
> I am also attaching the mitigation monitoring and reporting program (MMRP) that implemented the mitigation measures we agreed upon for the project at 1500 E. Anaheim St. We are using the same environmental consultant for this project and plan to use the same set of cultural/tribal cultural mitigation measures.
>
> Please let me know if this sounds okay to you.

O1-b

O1-b The comment documents the correspondence between Chairman Salas and the City of Long Beach. The Gabrieleno Band of Mission Indians – Kizh Nation accepted the mitigation measures and AB 52 Consultation is concluded.

Regards,

Scott Kinsey, AICP
Planner V

Long Beach Development Services | Planning Bureau
411 W. Ocean Blvd., 3rd Fl. | Long Beach, CA 90802
Office: 562-570-6461
LBDS Email Signature

From: Administration Gabrieleno <admin@gabrielenoindians.org>
Sent: Friday, January 17, 2020 1:40 PM
To: Scott Kinsey <Scott.Kinsey@longbeach.gov>
Subject: Re: Spring St. Business Park Project located: 2851 Orange Ave Long Beach CA

Good afternoon Scott

Thank you for your email, can you please resend the mitigation we provided on the last project so that Mr. Salas can review them.

Thank you

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org

Attachments area

On Fri, Jan 17, 2020 at 11:52 AM Scott Kinsey <Scott.Kinsey@longbeach.gov> wrote:

> Hello,
>
> Thank you for your correspondence. I would like to take a minute to explain this one, as you might have noticed the address sounds familiar to something you have already seen from us.
>
> The project has not changed from the project you saw previously. It is still approximately 160,000

O1-b Contd.

sq. ft. of new light industrial development in three buildings on a 7.8-acre site. However, due to potentially significant impacts to traffic and transportation, it became necessary to prepare an Environmental Impact Report (EIR), instead of the Mitigated Negative Declaration (MND) that we have previously consulted about.

Since there are no changes to any impacts in the Cultural Resources and Tribal Cultural Resources sections, we are proposing to use the same mitigation measures for Cultural Resources and Tribal Cultural Resources that we had consulted with you and agreed upon for the MND. These are additionally the same mitigation measures we consulted and agreed upon for the project at 1500 E. Anaheim St. here in Long Beach. Will this be acceptable to you? Please let me know.

Sincerely,

Scott Kinsey, AICP
Planner V

Long Beach Development Services | Planning Bureau
411 W. Ocean Blvd., 3rd Fl. | Long Beach, CA 90802
Office: 562-570-6461
Error! Filename not specified.
Error! Filename not specified. **Error! Filename not specified.**

From: Administration Gabrieleno <admin@gabrielenoindians.org>
Sent: Friday, January 10, 2020 3:19 PM
To: Scott Kinsey <Scott.Kinsey@longbeach.gov>
Subject: Spring St. Business Park Project located: 2851 Orange Ave Long Beach CA

Hello Scott Kinsey

Please see attachments

Thank you

Sincerely,

Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org
Error! Filename not specified.

Attachments area

--
Admin Specialist

O1-b Contd.

Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org

Attachments area

LOZEAU DRURY LLP
T 510.836.4200
F 510.836.4205
1939 Harrison Street, Ste. 150
Oakland, CA 94612
www.lozeaudrury.com
richard@lozeaudrury.com

Via Email and U.S. Mail

January 29, 2020

Scott Kinsley, Planner V
Dept. of Development Services
City of Long Beach
411 W. Ocean Boulevard, 3rd Floor
Long Beach, CA 90802
Scott.Kinsey@longbeach.gov

Christopher Koontz, Pl. Bureau Mgr./Liason to
Planning Commission
City of Long Beach
411 West Ocean Blvd., 3rd Floor
Long Beach, CA. 90802
Christopher.Koontz@longbeach.gov

Monique DeLaGarza, City Clerk
Office of the City Clerk
City of Long Beach
411 W. Ocean Blvd. (Lobby Level)
Long Beach, CA 90802
CityClerk@longbeach.gov

Re: **Comment on Draft Environmental Impact Report for the Spring Street Business Park Project (SCH No. 2019100514)**

Dear Mr. Kinsley, Mr. Koontz, and Ms. DeLaGarza:

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Draft Environmental Impact Report ("DEIR") prepared for the project known as Spring Street Business Park Project (SCH No. 2019100514), including all actions related or referring to the proposed construction of a business park complex consisting of 160,673 square feet of floor area within three concrete tilt up buildings located at 2851 Orange Avenue (Assessor's Parcel Number 7212-009-021) in the City of Long Beach ("Project"). O2-a

After reviewing the DEIR, we conclude that the DEIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the Project's impacts. SAFER requests that the Department of Development Services address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project. We reserve the right to supplement these comments during review of the Final EIR for the Project and at public hearings concerning the Project. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997). O2-b

Organization: Supporters Alliance for Environmental Responsibility

Letter Code: O2

Commenter: Richard Drury

Date: January 29, 2020

O2-a This comment states the commenter is writing on behalf of Supporters Alliance for Environmental Responsibility and summarizes the Draft EIR Project Description. This comment does not raise a substantive issue on the content of the Draft EIR. The comment will be made available for decision makers. No further response is required.

O2-b The comment letter claims the Draft EIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the project's impacts. However, the commenter fails to provide any details to support his assertion that the Draft EIR fails as an informational document and fails to impose feasible mitigation measures. To the contrary, the Draft EIR fully complies with CEQA and imposes all feasible mitigation measures. Recirculation of the Draft EIR is not warranted and no further response is required.

January 29, 2020
Comment on Draft Environmental Impact Report for Spring Street Business Park Project
(SCH No. 2019100514)
Page 2 of 2

Sincerely,

Richard Drury

8.4 Additional Changes

Additional minor changes have been made to reflect continued city review of the development application and related project plans, including site plan refinements and to provide more clarification to existing analyses in the EIR related to air quality and transportation. The minor changes to the project description reflect refinement of the project design by the project applicant and description of offsite improvements within the City of Signal Hill's jurisdiction which reflect the coordination of proposed improvements between the City of Long Beach and City of Signal Hill. Further, the air quality emissions estimates were adjusted to reflect a later construction start date than was originally included in the Draft EIR. Finally, additional clarifying language has been added to the transportation section regarding the mitigation measures identified in the Draft EIR as infeasible. Changes to the Draft EIR are documented by showing deletions with ~~strikethrough~~ and additions with underline. None of these minor changes affect the conclusions of the Draft EIR.

Executive Summary, page ES-3:

> Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach and as such, Mitigation Measure TRAN-1 is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~and~~ the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Executive Summary, page ES-3 to ES-4:

> Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, and Mitigation Measures TRAN-4 and TRAN-5 are potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~these~~impacts ~~are considered~~remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Chapter 2, Project Description, page 2-4:

> All three buildings would be 45 feet in height. ~~Building 1 and 2 would be 28 feet in height and Building 3 would be 30 feet in height.~~

Chapter 2, Project Description, page 2-5:

- **With Orange Avenue Bikeway Improvements** – To provide full access to the project site, the applicant would install an unsignalized project driveway ~~two-phase traffic signal with permissive phasing for the northbound left turn lane. The signal is proposed~~ approximately 260 feet south of Spring Street along Orange Avenue. The applicant would modify the northbound approach to accommodate a 100-foot left-turn lane and one through lane. For the eastbound approach, the applicant would install a shared left/right turn lane. These

improvements are subject to the approval of the City of Long Beach and/or the City of Signal Hill.

- **Without Orange Avenue Bikeway Improvements** – To provide full access to the project site install an unsignalized project driveway approximately 260 feet south of Spring Street along Orange Avenue. ~~two-phase traffic signal with permissive phasing for the northbound left-turn lane.~~ The applicant would modify the northbound approach to accommodate a 100-foot left-turn lane and two through lanes. For the eastbound approach, the applicant would install a shared left/right turn lane. These improvements are subject to the approval of the City of Long Beach and/or the City of Signal Hill.

Chapter 2, Project Description, page 2-9:

Orange Avenue would have a 40-foot wide roadway and ~~10~~8-foot wide sidewalk (5-foot-wide sidewalk and 3-foot-wide parkway area) located on both sides of the roadway, 6-foot-wide bike lane, and a 6-foot-wide median within the 20-foot dedication area. Immediately south of the Spring Street intersections, improvements would include a 5-foot sidewalk, a 7-foot-wide bike lane, and an 8-foot-wide median to accommodate a bus stop. ~~An additional 2 feet of sidewalk would be provided in the vicinity of the bus stop on Orange Avenue adjacent to the project site, achieving a 12-foot-wide public sidewalk.~~ Unused driveways and curb cuts would be replaced with full-height curb, curb gutter, and sidewalk. The existing sidewalk and curb ramps located at the southwest, northwest, and northeast corners or Orange Avenue and Spring Street would be demolished and new Americans with Disabilities Act compliant curb ramps would be constructed.

The existing crosswalks at the intersection of Orange Avenue and Spring Street would be upgraded to continental style crosswalks, using thermoplastic materials, per the latest City of Long Beach standards, as approved by the City Traffic Engineer.

Section 3.1, Air Quality, page 3.1-16 through 3.1-18:

The CalEEMod emission model runs in the Draft EIR assumed construction would occur in 2019 and 2020. The CalEEMod emission model runs were updated to assume construction would occur in 2021 and 2022. In Section 3.1, Air Quality, Table 3.1-6, Table 3.1-7, Table 3.1-8, and Table 3.1-9 were updated to include the results of the updated model runs. The updated CalEEMod model run results are included in Appendix G.

Section 3.3, Greenhouse Gas Emissions, page 3.3-7 through 3.3-8:

The CalEEMod calculations for GHG emissions in the Draft EIR assumed construction would occur in 2019 and 2020. The CalEEMod emission model runs were updated to assume construction would occur in 2021 and 2022. In Section 3.3, Greenhouse Gas Emissions, Table 3.3-3 and Table 3.3-4 were updated to include the results of the updated model runs. Additionally, the text was revised to match the updated MT of CO_2e in the tables. The updated CalEEMod model run results are included in Appendix G.

Section 3.5, Transportation, page 3.5-11:

Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA

Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~ remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-12:

Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-13:

Due to the fact that **Mitigation Measures TRAN-4 and TRAN-5** are subject to approval by and are the responsibility of another agency (Caltrans) and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measures TRAN-4 and TRAN-5** are potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, these impacts ~~are considered~~ remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-23:

Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-24:

Due to the fact that **Mitigation Measures TRAN-1** is the responsibility of and is subject to approval by the City of Signal Hill, and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, **Mitigation Measure TRAN-1** is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA

Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-24:

Due to the fact that **Mitigation Measures TRAN-4 and TRAN-5** are subject to approval by and are the responsibility of another agency (Caltrans) and that such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, these mitigation measures are potentially infeasible pursuant to CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, impacts ~~are considered~~ remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-24 to 3.5-25:

Mitigation Measures TRAN-1, TRAN-4, and TRAN-5 are potentially infeasible because they are subject to approval by and are the responsibility of another agency and not the City of Long Beach. ~~If the agency responsible for approval determines the measures are infeasible, then the measures would not be imposed by the City of Long Beach.~~Because Mitigation Measures TRAN-1, TRAN-4, and TRAN-5 are within the responsibility and jurisdiction of another agency, they are potentially infeasible pursuant to CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). If Caltrans and/or the City of Signal Hill approves and permits the work required by these mitigation measures, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-26:

Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach and as such, Mitigation Measure TRAN-1 is potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~and~~ the impact at Orange Avenue and 32nd Street during PM peak hours ~~is considered~~remains significant and unavoidable. If the City of Signal Hill approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

Section 3.5, Transportation, page 3.5-26:

> Therefore, such improvements are within the responsibility and jurisdiction of another public agency and not the City of Long Beach, and Mitigation Measures TRAN-4 and TRAN-5 are potentially legally infeasible under CEQA Guidelines 15091(a)(2) and Section 15091(a)(3). Only feasible mitigation measures can be legally imposed pursuant to CEQA Guidelines Section 15091(d), Section 15097(a), and Section 15126.4(a)(5). Therefore, ~~these~~impacts ~~are considered~~remain significant and unavoidable. If Caltrans approves and permits the work required by this mitigation measure, the City of Long Beach shall review the approval and permitted scope of work to determine if it is "feasible" for the purposes of CEQA.

LONGBEACH
DEVELOPMENT
SERVICES

100 Oceangate
Suite 1120
Long Beach, CA
90802

hdrinc.com

We practice increased use of sustainable materials and reduction of material use.

© 2020 HDR, Inc., all rights reserved.