388 VINTAGE PARK DRIVE PROJECT
ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2021070398

FOSTER CITY, CALIFORNIA

LSA

December 2021

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NOTICE OF AVAILABILITY (NOA)
CITY OF FOSTER CITY
PROPOSED RESEARCH & DEVELOPMENT BUILDING AT 388 VINTAGE PARK DRIVE
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) AND
PLANNING COMMISSION PUBLIC HEARING – JANUARY 25, 2022
STATE CLEARING HOUSE #2021070398

To: State Clearinghouse
Affected Agencies
Property Owners within 500 Feet of the Affected Property
Interested Organizations and Persons

From: City of Foster City, Planning/Code Enforcement and Building Division

Subject: **Notice of Availability of a Draft Environmental Impact Report for the 388 Vintage Park Drive Project**

Lead Agency: **City of Foster City**
610 Foster City Boulevard
Foster City, CA 94404
(650) 286-3244

Contact: **Shannon Allen**
Principal Planner/Contract Planner
sallen@fostercity.org
(650) 286-3219

NOTICE IS HEREBY GIVEN that the City of Foster City (City), as the lead agency under the California Environmental Quality Act (CEQA), has prepared a Draft Environmental Impact Report (DEIR) for the proposed 388 Vintage Park Drive Project (proposed project) in the Vintage Park General Development Plan (GDP) area.

PUBLIC REVIEW TIMELINE: In accordance with Section 15087 of the CEQA Guidelines, the City has prepared this Notice of Availability (NOA) to invite agencies, organizations, and interested parties to provide comments on the DEIR. The public review period for the DEIR begins December 17, 2021, and ends January 31, 2022. The City must receive all written comments regarding the adequacy of the DEIR within this time period. Please provide written comments to Shannon Allen, Principal Planner/Contract Planner, post-marked by January 31 or by email by **5:00 p.m. on January 31, 2022**, at the address shown above, with "388 Vintage Park Drive Project EIR" as the subject. Public agencies that provide comments are asked to include a contact person for the agency.

PUBLIC HEARING: Further notice is hereby given that comments on the DEIR will be accepted as part of the Planning Commission meeting tentatively scheduled on **January 25, 2022,** at **7:00 p.m.** In response to the ongoing COVID-19 pandemic, the Planning Commission meeting will be held in-person at Foster City Council Chambers located at 620 Foster City Blvd, Foster City, as well as remotely via Zoom, which can be accessed at: www.fostercity.org/agendasandminutes.

DOCUMENT AVAILABILITY: Copies of the DEIR are available for review Monday through Friday, between the hours of 8:00 a.m. and 5:00 p.m., at City Hall, Community Development Department, 610 Foster City Boulevard, Foster City, CA, 94404, except on specified holidays. The DEIR is also available at the Foster City Public Library, at 1000 East Hillsdale Boulevard, and online, at: 388 Vintage Park Drive Project Page [https://www.fostercity.org/ search Community Development Major Projects or 388 Vintage Park Drive]

PROJECT TITLE: 388 Vintage Park Drive Project

PROJECT APPLICANT: W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC (a Joint Venture by SteelWave and Helios Real Estate Partners)

PROJECT LOCATION AND EXISTING CONDITIONS: The project site is located north of State Route (SR 92) in the Vintage Park neighborhood in the City of Foster City, San Mateo County. The approximately 2.2-acre project site is located at 388 Vintage Park Drive (Assessor's Parcel Number [APN]: 094-901-270) and is generally surrounded by a mix of uses. The project site is bordered to the north by a commercial building, to the east by Vintage Park Drive, to the south by a small park owned by the Vintage Park Community Association (VPCA), and to the west by The Home Depot.

The project site is currently developed with a single-story, approximately 10,120-square-foot vacant commercial building. The existing building was constructed in approximately 1990 and was previously occupied by the El Torito restaurant until November 2018. A total of 178 surface parking spaces are provided across the project site. Vegetation on the site consists of small landscaped areas along the eastern border of the project site and approximately 55 mature trees throughout the site.

PROJECT DESCRIPTION: The proposed project would result in the demolition of the existing commercial building and construction of an approximately 120,164-square-foot, four-story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) "B occupancy" Research and Development (R&D) office building including a ground-level parking garage with approximately 210 vehicle parking spaces, as well as associated open space, circulation and parking, and site improvements.

The proposed building would be located in the center of the project site. The second and third floors of the proposed building would each be approximately 33,000 square feet in size, while the fourth floor would be approximately 27,000 square feet. A total of 95,931 square feet of R&D space is proposed, approximately 50 percent of which would be laboratory space and 50 percent would be office space, distributed evenly throughout each floor. The mechanical penthouse would occupy approximately 20,000 square feet on the rooftop. It is anticipated that approximately 213 employees would be accommodated on the project site. A total of approximately 28,000 square feet of open space would be provided across the entire project site, including common ground floor open space, and an approximately 6,000-square-foot rooftop terrace on the fourth level.

PROJECT APPROVALS: The project site is designated Research/Office Park in the City's General Plan and is within the Commercial Mix District/Planned Development Combining District (C-M/PD). The project site is also part of the Vintage Park General Development Plan, which designates the site for restaurant use. The following City discretionary approvals would be required prior to development at the project site:

- Environmental Assessment
- General Development Plan Amendment/Rezoning
- Specific Development Plan/Use Permit
- Use Permit Modification (Amendments to Vintage Park Design Guidelines)
- Encroachment Permit
- Transportation Permit

RESPONSIBLE AGENCIES: The City requests the following agencies review the analysis within the DEIR regarding information relevant to your agency's statutory responsibilities in connection with the

proposed project, pursuant to CEQA Guidelines Section 15086. Your agency may need to use the EIR prepared by the City when considering any permits or other approvals that your agency must issue for the proposed project.

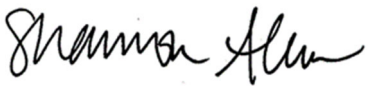
- California Department of Transportation
- California Regional Water Quality Control Board
- Bay Area Air Quality Management District
- City/County Association of Governments
- San Mateo County Transportation Authority
- San Mateo County Environmental Health Division
- City of San Mateo

INTRODUCTION TO EIR: An Initial Study for the project, which is also available for review online at: 388 Vintage Park Drive Project Page, was prepared to evaluate the potential environmental impacts of the proposed project and determine the appropriate level of additional environmental review, and was released on July 21, 2021, with a public review period from July 21, 2021 through August 19, 2021. Based on the findings of the Initial Study, a Draft EIR was prepared to address potential physical environmental effects of the proposed project for the following topics: Land Use and Planning, Aesthetics, Transportation, Air Quality, Greenhouse Gas Emissions, Noise, Hazards and Hazardous Materials, Public Services, and Utilities and Service Systems.

SIGNIFICANT ANTICIPATED ENVIRONMENTAL EFFECTS: The Draft EIR does not identify any significant and unavoidable environmental impacts from the proposed project. The proposed project would result in potentially significant impacts related to Transportation and Noise, but these impacts would be reduced to a less than significant level with implementation of identified mitigation measures. Impacts related to all other topics would be less than significant.

HAZARDS MATERIALS AND HAZARDOUS WASTE SITES: The project site is not located on any list of hazardous materials waste sites compiled pursuant to Section 65962.5 of the Government Code.

EIR PROCESS: In accordance with CEQA Guidelines Section 15105(a), the Draft EIR will be available for public review and comment for a 45-day review period. Following the close of the public review period on January 31, 2022, the City will prepare a Final EIR, which will include responses to all substantive comments received on the Draft EIR. The Draft EIR and Final EIR will be considered by the Planning Commission and the City Council in making the decision to certify the EIR and final actions on the project.



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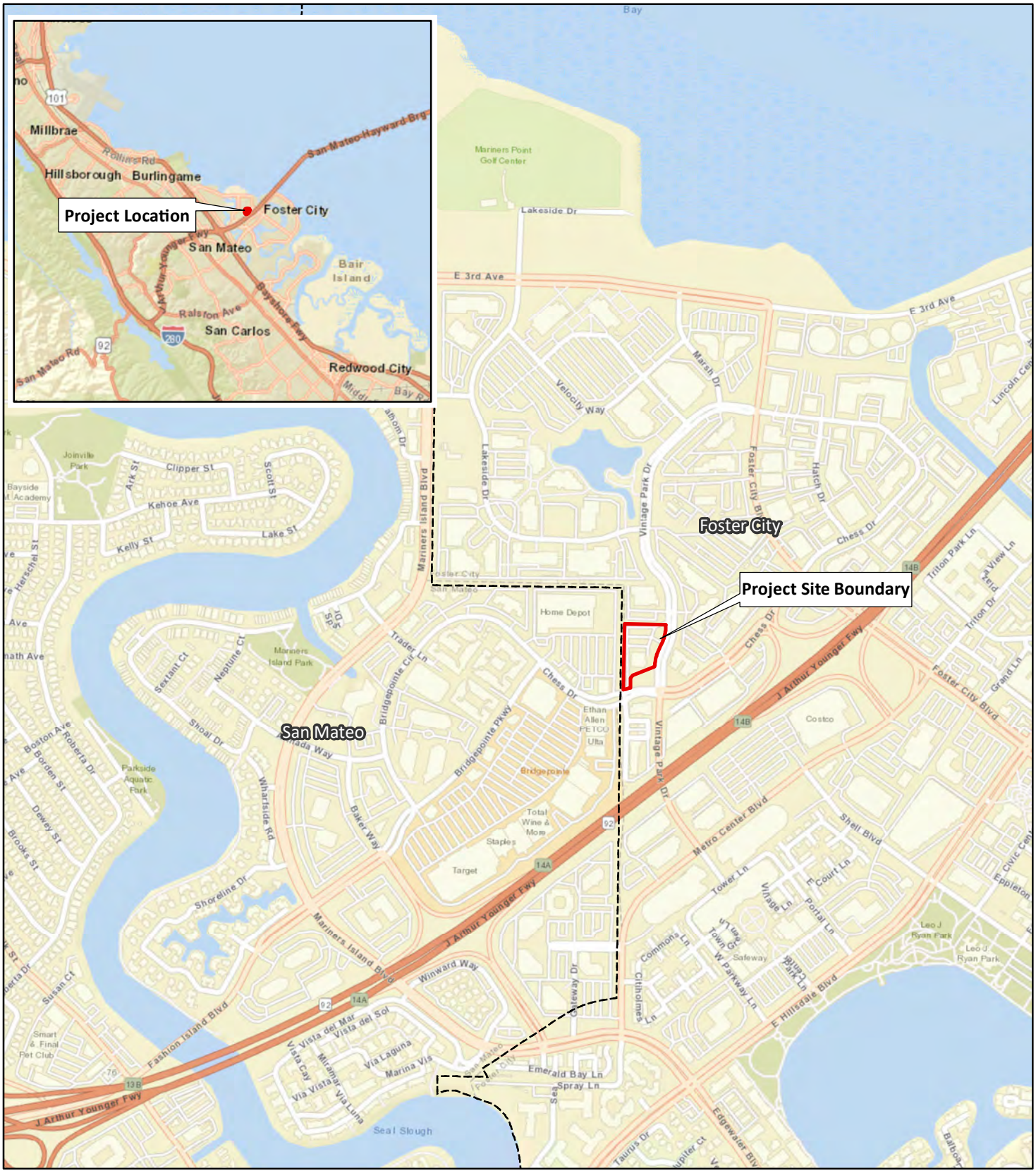
Shannon Allen, AICP, Principal Planner/Contract Planner
City of Foster City

December 17, 2021

Attached: Project Location and Regional Vicinity Map



SOURCE: ESRI World Map (06/19).

I:\CFS2101\GIS\Maps\Figure 3-1_Project Location and Regional Vicinity Map.mxd (6/14/2021)

388 Vintage Park Drive Project

Project Location and Regional Vicinity Map

388 VINTAGE PARK DRIVE PROJECT
ENVIRONMENTAL IMPACT REPORT

FOSTER CITY, CALIFORNIA

Submitted to:

Marlene Subhashini, Community Development Director
City of Foster City
Community Development Department
610 Foster City Boulevard
Foster City, California 94404

Prepared by:

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Project No. CFS2101

LSA

December 2021

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TABLE OF CONTENTS

APPENDICES

(Printed separately)

FIGURES AND TABLES

FIGURES

TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ADA	Americans with Disabilities Act
AFY	acre-feet per year
AIA	Airport Influence Area
Air Basin	San Francisco Bay Area Air Basin
APS	Alternative Planning Strategy
BAAQMD	Bay Area Air Quality Management District
BMP	best management practices
BAWSCA	Bay Area Water Supply and Conservation Agency
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEnviroScreen	California Communities Environmental Health Screening Tool
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards
CAP	Climate Action Plan
CARB	California Air Resources Board
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CAT	Climate Action Team
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	California Fire Code

CH_4	methane
City	City of Foster City
Clean Air Plan	2017 Bay Area Clean Air Plan
CLUP	San Mateo County Comprehensive Airport Land Use Plan
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COA	Condition(s) of Approval
COA	Condition(s) of Approval
CPUC	California Public Utilities Commission
CRMP	Construction Risk Management Plan
CVC	California Vehicle Code
DOT	United State Department of Transportation
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EMID	Estero Municipal Improvement District
ESL	Environmental Screening Level
EV	electric vehicle
FAA	Federal Aviation Administration
FCAA	federal Clean Air Act
GDP	General Development Plan
General Plan	Foster City General Plan
GHG	greenhouse gas
Gilead	Gilead Sciences, Inc.
Gilead	Gilead Sciences, Inc.
GWP	global warming potential
HFCs	hydrofluorocarbons
HRA	health risk assessment

IPCC	United Nations Intergovernmental Panel on Climate Change
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LTS	less than significant impact
mgd	million gallons per day
mgy	million gallons per year
MMT CO_2e	million metric tons of carbon dioxide equivalent
MPOs	Metropolitan Planning Organizations
MRP	Municipal Regional Stormwater NPDES Permit
MT CO_2e	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NOP	Notice of Preparation
NO_X	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OSHA	Occupational Safety and Health Administration
OSFM	California Office of the State Fire Marshal
PCB	polychlorinated biphenyl
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in size
POTW	publicly owned treatment works
ppm	parts per million
project	388 Vintage Park Drive Project
PUE	public utility easement
R&D	research and development

R&D	research and development
RCRA	Resource Conservation and Recovery Act of 1976
RWS	San Francisco Public Utilities Commission Regional Water System
S	significant impact
SB	Senate Bill
SBx7-7	Senate Bill x7-7
SBWMA	South Bayside Waste Management Authority
SCS	Sustainable Community Strategy
SDP	Specific Development Plan
SDS	Safety Data Sheet
SF_6	sulfur hexafluoride
SFO	San Francisco International Airport
SFPUC	San Francisco Public Utilities Commission
Shoreway	Shoreway Environmental Center
SIP	State Implementation Plan
SMCEHS	San Mateo County Environmental Health Services
SMCFD	San Mateo Consolidated Fire Department
SR-92	State Route 92
State Water Board	State Water Resources Control Board
SU	unavoidable impact
SWPPP	Stormwater Pollution Prevention Plan
TDM	Transportation Demand Management
USEPA	United States Environmental Protection Agency
UWMP	2020 Urban Water Management Plan
VMT	vehicle miles traveled
VPCA	Vintage Park Community Association
WSA	Water Supply Assessment

WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Plan
WWTP	San Mateo Wastewater Treatment Plant
Zoning Ordinance	Foster City Zoning Ordinance

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1.0 INTRODUCTION

1.1 PURPOSE OF THIS EIR

In compliance with the California Environmental Quality Act (CEQA) and the City of Foster City (City)/Estero Municipal Improvement District (EMID) Environmental Review Guidelines,[1] this Environmental Impact Report (EIR) describes the potential environmental impacts of the proposed 388 Vintage Park Drive Project (project) submitted by W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC, a Joint Venture by SteelWave and Helios Real Estate Partners (the project sponsor). The City is the CEQA Lead Agency for environmental review.

The purpose of this EIR is to inform City decision-makers, responsible agencies, and the general public about the proposed project and the potential physical environmental consequences of project implementation. This EIR also examines alternatives to the proposed project and recommends mitigation measures to reduce or avoid potentially significant physical environmental impacts, to the extent feasible. This EIR will be used as an informational document by the City's Planning Commission and/or City Council, responsible agencies, and the public in their review of the proposed project and associated approvals described below and in more detail in Chapter 3, Project Description.

1.2 PROPOSED PROJECT

The 2.2-acre project site is at 388 Vintage Park Drive in the Vintage Park Drive neighborhood of Foster City, San Mateo County. The project site is bordered to the north by commercial uses, to the east by Vintage Park Drive, to the south by a small park owned by the Vintage Park Community Association, and to the west by a commercial warehouse building. The project site is currently developed with a single-story, approximately 10,120-square-foot vacant commercial building, formerly occupied by a restaurant (El Torito) until November 2018. The proposed project would result in the demolition of the existing restaurant building and construction of an approximately 120,164-square-foot, four-story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) office building including a ground-level parking podium and surface parking totaling 210 vehicle parking spaces, as well as associated open space, circulation and loading, and infrastructure improvements.

Discretionary actions by the City that would be necessary for development of the proposed project include environmental review, General Development Plan Amendment/Rezoning, a Specific Development Plan/Use Permit, a Use Permit Modification (Amendments to Vintage Park Design Guidelines), an Encroachment Permit, and a Transportation Permit.

1.3 EIR SCOPE

The City circulated a Notice of Preparation (NOP) informing responsible agencies and interested parties that an EIR would be prepared for the proposed project and indicated the environmental topics anticipated to be addressed in the EIR. An Initial Study circulated with the NOP. The NOP and

[1] Foster City, City of/Estero Municipal Improvement District. 2007. *Environmental Review Guidelines.* October 1.

the Initial Study were published on July 21, 2021, and the NOP was mailed to public agencies, organizations, property owners within 1,000 feet of the site, and individuals likely to be interested in the potential impacts of the proposed project. A scoping session was held as a public meeting before the Planning Commission on August 12, 2021, to solicit feedback regarding the scope and content of the EIR. Both verbal comments from members of the Planning Commission and the public provided during the scoping session and three written comments provided by members of the Planning Commission and the public on the NOP were received by the City and considered during preparation of this EIR. Copies of the NOP, comment letters, and a summary of the verbal comments received are included in Appendix A.

Based on the preliminary analysis provided in the Initial Study (Appendix B), consultation with City staff, and review of the comments received during the scoping process, the following environmental topics are addressed in Chapter 4, Setting, Impacts, and Mitigation Measures, of this EIR:

4.1 Land Use and Planning
4.2 Aesthetics
4.3 Transportation
4.4 Air Quality
4.5 Greenhouse Gas Emissions
4.6 Noise
4.7 Hazards and Hazardous Materials
4.8 Public Services
4.9 Utilities and Service Systems

It has been determined that the following potential environmental effects of the proposed project would be less than significant or have no impact, and therefore, these topics are "scoped out" and not further studied in detail in this EIR: agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, mineral resources, population and housing, recreation, and wildfire. Each of these topic areas is addressed in the Initial Study (Appendix B). Chapter 6, Other CEQA Considerations, of this EIR provides a summary of the analysis and conclusions for each environmental topic evaluated in the Initial Study and not further addressed in Chapter 4. This EIR was prepared in compliance with City/EMID Environmental Review Guidelines.[2]

1.4 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1 – Introduction:** Discusses the overall EIR purpose, provides a summary of the proposed project, describes the EIR scope, and summarizes the organization of the EIR.

- **Chapter 2 – Summary:** Provides a summary of the impacts that would result from implementation of the proposed project, describes mitigation measures recommended to reduce or

[2] Foster City, City of/Estero Municipal Improvement District. 2007. *Environmental Review Guidelines.* October 1.

avoid potentially significant environmental impacts, and describes the alternatives to the proposed project.

- **Chapter 3 – Project Description:** Provides a description of the project site, project objectives, proposed project, and uses of this EIR.

- **Chapter 4—Setting, Impacts, and Mitigation Measures:** Describes the following for each technical environmental topic: existing conditions (setting), potential environmental impacts of the proposed project and their level of significance, and mitigation measures recommended to reduce or avoid identified potential impacts. Potential cumulative impacts are also addressed in each topical section. Potential adverse impacts are identified by levels of significance, as follows: significant impact (S), less than significant impact (LTS), and significant and unavoidable impact (SU). The significance of each potential impact is categorized before and after implementation of any recommended mitigation measure(s).

- **Chapter 5—Other CEQA Considerations:** Provides an analysis of effects found not to be significant, including the Initial Study findings, growth-inducing impacts, unavoidable significant environmental impacts, and significant irreversible changes.

- **Chapter 6—Alternatives:** Provides an evaluation of two alternatives to the proposed project in addition to the CEQA-required No Project alternative.

- **Chapter 7—Report Preparation:** Identifies preparers of the EIR and the references used.

- **Appendices:** The appendices contain the NOP and comment letters (Appendix A); the Initial Study (Appendix B); a Transportation Impact Study (Appendix C); Air Quality and Greenhouse Gas Emissions Data (Appendix D); Noise Data (Appendix E); a Water Supply Assessment (Appendix F); and a Sewer Capacity Study (Appendix G). All appendices are available online at: https://www.fostercity.org/commdev/project/388-vintage-park-drive-ea2021-0001-rz2021-0003-up2021-0023-up2021-0024. Paper copies are available upon request.

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2.0 SUMMARY

This chapter provides an overview of the proposed project and findings identified in this Environmental Impact Report (EIR), prepared pursuant to the California Environmental Quality Act (CEQA), including a discussion of alternatives and cumulative project impacts.

2.1 PROJECT UNDER REVIEW

This EIR has been prepared to evaluate the potential environmental consequences of implementation (i.e., construction and operation) of the proposed 388 Vintage Park Drive Project (project) submitted by W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC, a Joint Venture by SteelWave and Helios Real Estate Partners (the project sponsor). The approximately 2.2-acre project site is at 388 Vintage Park Drive in Foster City, San Mateo County. The project site is bounded by a commercial building to the north, Vintage Park Drive to the east, Chess Drive to the south, and to the west by The Home Deport commercial warehouse building. The project site is currently developed with a 10,120-square-foot vacant commercial building, formerly occupied by a restaurant (El Torito) until November 2018. Vegetation on the site consists of small landscaped areas along the eastern border of the project site and 55 mature trees throughout the site.

The proposed project would result in the redevelopment of the project site with a 120,164-square-foot, four-story office building, which would include a ground-level parking podium and surface parking, as well as associated open space, circulation and loading, and infrastructure improvements. The proposed building would be a maximum of 68 feet in height, excluding a mechanical penthouse and associated equipment that would reach 80 feet.

The proposed building would be a “B occupancy” research and development (R&D) office use that would include three levels of occupied space above a single-level of ground floor parking. The proposed building would be at the center of the project site. The second and third floors of the proposed building would each be approximately 33,000 square feet in size, whereas the fourth floor would be approximately 27,000 square feet. A total of 95,931 square feet of R&D space is proposed, approximately 50 percent of which would be laboratory space and 50 percent would be office space, distributed evenly throughout each floor. It is anticipated that 213 employees would be accommodated on the project site.

A total of approximately 28,000 square feet of open space would be provided across the entire project site, consisting of 22,000 square feet of ground level common open space and an approximately 6,000-square-foot terrace on the fourth level. Approximately 53 new trees would be planted throughout the site.

The ground level of the proposed building would include a garage that would contain approximately 102 parking spaces that would be accessed from a driveway at the northwest corner of the proposed building. An additional 108 surface parking spaces would be provided for a total of 210 parking spaces. A total of 20 bicycle spaces would be provided in a long-term storage room in the parking garage.

Discretionary actions by the City of Foster City (City) necessary for development of the proposed project include environmental review, General Development Plan Amendment/Rezoning, a Specific Development Plan/Use Permit, a Use Permit Modification (Amendments to Vintage Park Design Guidelines), an Encroachment Permit, and a Transportation Permit. Refer to Chapter 3, Project Description, for a complete description of the project's location, context, and objectives, details of the proposed project itself, and a summary of required approvals and entitlements.

2.2 POTENTIAL AREAS OF CONTROVERSY

A total of three commenters submitted written responses to the Notice of Preparation (NOP), in addition to the verbal comments received at the public scoping session held on August 12, 2021. The NOP, comments received, and as summary from the scoping session are included in Appendix A. Comments in response to the NOP generally identified the following areas of potential concern:

- Vehicle miles traveled (VMT) analysis and mitigation
- The application of Assembly Bill 52 and compliance with tribal consultation requirements
- The Geotechnical Report prepared for the proposed project

Comments related to traffic, transportation, and circulation were considered and addressed in Section 4.3, Transportation, of this EIR. Comments related to geology and soils and tribal cultural resources are addressed in Sections 3.8, Geology and Soils, and 3.18, Tribal Cultural Resources, of the Initial Study (Appendix B).

2.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained in the Initial Study (Appendix B) and Chapter 4 Setting, Impacts, and Mitigation Measures, of this EIR.

2.3.1 Findings of the Initial Study

The Initial Study for the proposed project is included in Appendix B to this EIR. The Initial Study identified (1) no impacts, (2) less than significant impacts, or (3) less than significant impacts with implementation of standard mitigation measures related to the following environmental issues:

- Agriculture and Forestry Resources
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hydrology and Water Quality
- Mineral Resources
- Population and Housing
- Public Services (Schools, Park, and Other Facilities)
- Recreation
- Tribal Cultural Resources
- Wildfire

The proposed project would be required to comply with standard Conditions of Approval (COA) required by the City for approval of all Major Use Permits. Applicable COAs are identified in the regulatory setting for each environmental topic. For a complete description of potential impacts identified in the Initial Study, please refer to the specific discussion within each topical section of the Initial Study (Appendix B). Chapter 5, Other CEQA Considerations, also includes a summary of the findings for each topic not discussed in the EIR.

The Initial Study identified topic areas that require study pursuant to the settlement agreement and potential impacts requiring more detailed evaluation related to the following environmental issues, which are further evaluated in Chapter 4 of this EIR:

- Land Use and Planning
- Aesthetics
- Transportation
- Air Quality
- Greenhouse Gas Emission
- Noise
- Hazards and Hazardous Materials
- Public Services
- Utilities and Service Systems

2.3.2 Significant Impacts

CEQA defines a significant impact on the environment as "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." As discussed in more detail in Chapter 4.0 of this EIR, impacts in the following areas would be potentially significant without the implementation of mitigation measures, but would be reduced to a less than significant level if the mitigation measures recommended in this report are implemented:

- Transportation (site access)
- Noise (interior exposure to construction noise)

Impacts related to land use and planning, aesthetics, air quality, greenhouse gas emissions, hazards and hazardous materials, public services, and utilities and service systems would be less than significant and no mitigation measures would be required.

2.3.3 Significant Unavoidable Impacts

With implementation of the mitigation measures recommended in this EIR, all project impacts would be reduced to a less than significant level and the proposed project would not result in any significant unavoidable impacts.

2.3.4 Cumulative Impacts

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited, but cumulatively significant. These impacts can result from the proposed project when combined with other past, present, or reasonably foreseeable future projects. As described in Section 4.0 of this EIR the cumulative impacts analysis in this EIR is based on information provided by the City on currently planned, approved, or proposed projects and regional projections for the area. All identified impacts of the proposed project would be individually limited and would not be cumulatively considerable. Cumulative impacts would be less than significant.

2.3.5 Alternatives to the Project

In accordance with CEQA and the *State CEQA Guidelines* (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the project's location, that could attain most of the project's basic objectives while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. 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. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The two alternatives to the proposed project discussed and analyzed in Chapter 6 of this EIR are:

- The **No Project Alternative**, which assumes the project site would continue to be occupied by the existing single-story, 10,120-square-foot commercial building. It is assumed that the building would continue to be vacant. No modifications to existing site access or infrastructure would take place.

- The **Restaurant Alternative**, which assumes the project site would continue to be occupied by the existing single-story, 10,120-square-foot commercial building. It is assumed that a new sit-down restaurant use would occupy the building. Exterior modifications to the existing building could take place; however, no modifications to the existing site access or infrastructure would take place.

2.4 SUMMARY TABLES

Information in Table 2.A, Summary of Impacts and Mitigation Measures, from the Initial Study summarizes the recommended mitigation measures and COAs from the Initial Study. Information in Table 2.B, Summary of Impacts and Mitigation Measures from the EIR, has been organized to correspond with environmental issues discussed in Chapter 4. Tables 2.A and 2.B are arranged in four columns: (1) impacts, (2) level of significance without mitigation, (3) mitigation measures, and (4) level of significance with mitigation. Levels of significance are categorized as follows:

LTS	Less Than Significant
S	Significant
SU	Significant Unavoidable

For a complete description of potential impacts and recommended mitigation measures, please refer to the specific topical discussions in Chapter 4 and the Initial Study (Appendix B).

Table 2.A: Summary of Impacts and Mitigation Measures from the Initial Study

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
3.2: AGRICULTURE AND FORESTRY RESOURCES			
There are no significant impacts to agriculture and forestry resources.			
3.4: BIOLOGICAL RESOURCES			
Project construction could impact the special-status white-tailed kite and other nesting birds protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code.	S	**Mitigation Measure BIO-1:** If possible, the project sponsor shall avoid construction activities during the bird nesting season (February 1 through August 31). If construction activities are scheduled during the nesting season, a qualified biologist shall conduct a pre-construction survey of all suitable nesting habitat (i.e., trees, shrubs, structures) within 250 feet of the project site (where accessible). The pre-construction survey shall be conducted no more than 14 days prior to the start of work. If the survey indicates the presence of nesting birds, protective buffer zones shall be established around the nests as follows: for raptor nests, the size of the buffer zone shall be a 250-foot radius centered on the nest; for other birds, the size of the buffer zone shall be a 50- to 100-foot radius centered on the nest. In some cases, these buffers may be increased or decreased depending on the bird species and the level of disturbance that will occur near the nest.	LTS
Project construction could impact the special-status pallid bat and other roosting bats protected by the California Department of Fish and Wildlife.	S	**Mitigation Measure BIO-2:** A qualified biologist shall conduct a pre-construction survey for roosting bats at all suitable bat roosting habitat (i.e., trees, the unoccupied building) within the project area within 14 days prior to the beginning of project-related activities. If active bat roosts are discovered or if evidence of recent prior occupation is established, a buffer shall be established around the roost site until the roost site is no longer active. Before any construction activities begin in the vicinity of the identified bat roosts on the project site, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the bats and their habitat, the specific measures that are being implemented to conserve the bat roosts for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session. If an active bat roost is identified and would be impacted by the project, CDFW shall be contacted to determine the best methodology for removing the roost and to determine appropriate mitigation (if needed), which may include the construction of a new bat roost within the project area.	LTS
3.5: CULTURAL RESOURCES			
There are no significant impacts to cultural resources.			
3.6: ENERGY			
There are no significant impacts to energy.			

Table 2.A: Summary of Impacts and Mitigation Measures from the Initial Study

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
3.7: GEOLOGY AND SOILS			
There are no significant impacts to geology and soils.			
3.10: HYDROLOGY AND WATER QUALITY			
There are no significant impacts to hydrology and water quality.			
3.12: MINERAL RESOURCES			
There are no significant impacts to mineral resources.			
3.14: POPULATION AND HOUSING			
There are no significant impacts to population and housing.			
3.15: PUBLIC SERVICES[1]			
There are no significant impacts to schools, parks, or other public facilities.			
3.16: RECREATION			
There are no significant impacts to recreation.			
3.18: TRIBAL CULTURAL RESOURCES			
There are no significant impacts to tribal cultural resources.			
3.20: WILDFIRE			
There are no significant impacts to wildfire.			

Source: Compiled by LSA (2021).
Note: Sections 3.1, Aesthetics, 3.3, Air Quality, 3.8, Greenhouse Gas Emissions, 3.9, Hazards and Hazardous Materials, 3.11, Land Use and Planning, 3.13, Noise, and 3.17, Transportation, are addressed in the EIR and summarized in Table 2.B.
[1] As noted above, potential impacts related to schools, parks, and other public facilities are not further addressed in Section 4.8, Public Services, of this EIR.
CDFW = California Department of Fish and Wildlife
LTS = less than significant

Table 2.B: Summary of Impacts and Mitigation Measures from the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.1: LAND USE AND PLANNING			
There are no significant impacts to land use and planning.			
4.2: AESTHETICS			
There are no significant impacts to aesthetics.			
4.3: TRANSPORTATION			
Impact TRA-1: Development of the proposed project would worsen an existing hazardous geometric design feature.	S	**Mitigation Measure TRA-1:** Prior to the issuance of a building permit, the project sponsor shall revise the project plans to show either: (1) signage, markings, hardscape, or other suitable treatments to prohibit both inbound and outbound left turns at the existing Chess Drive driveway; or (2) roadway improvements with side-by-side center left-turn lanes on Chess Drive that are separated by a hardscape median. A suggested conceptual configuration is shown in Figure 4.3-5 of the Draft EIR.	LTS
4.4: AIR QUALITY			
There are no significant impacts to air quality.			
4.5: GREENHOUSE GAS EMISSIONS			
There are no significant impacts to greenhouse gas emissions.			
4.6: NOISE			
Impact NOI-1: Noise from construction activities at the project site would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	S	**Mitigation Measure NOI-1:** The project contractor shall implement the following measures, where feasible, during construction of the project: • Electrical power, rather than diesel equipment, shall be used to run compressors and similar power tools and to power temporary structures, such as construction trailers or caretaker facilities. • All noise from workers' radios shall be controlled to a point that they are not audible at sensitive receptors near construction activity. • Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels.	LTS
4.7: HAZARDS AND HAZARDOUS MATERIALS			
There are no significant impacts to hazards and hazardous materials.			
4.8: PUBLIC SERVICES			
There are no significant impacts to public services.			
4.9: UTILITIES AND SERVICE SYSTEMS			
There are no significant impacts to utilities and service systems.			

Source: Compiled by LSA (2021).
LTS = less than significant

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3.0 PROJECT DESCRIPTION

This chapter describes the proposed 388 Vintage Park Drive Project (project) submitted by W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC, a Joint Venture by SteelWave and Helios Real Estate Partners (the project sponsor) and evaluated in this Environmental Impact Report (EIR). A description of the proposed project's location, context, and objectives is followed by details of the proposed project itself and a summary of required approvals and entitlements.

3.1 PROJECT SITE

The following describes the geographic context of the proposed project site and provides a brief overview of the existing land uses within and in the vicinity of the site.

3.1.1 Regional Location and Access

The 2.2-acre project site is at 388 Vintage Park Drive in Foster City, San Mateo County. Foster City is approximately 23 miles south of San Francisco, at the southwest edge of San Francisco Bay.

Regional vehicular access to the project site is provided by State Route 92 (SR-92) via the Foster City Boulevard on- and off-ramps to the east and US Route 101, via the SR-92 interchange, to the southwest. Direct local access is via Vintage Park Drive and Chess Drive, which border the site immediately to the east and south. The project site is served by two nearby Caltrain stations: the Hayward Park Caltrain station is approximately 2.5 miles west of the project site, providing weekday service from San Francisco to Gilroy and weekend service from San Francisco to San Jose, and the Hillsdale Caltrain station is 3.4 miles to the southwest. The site is also served by two bus lines, the FCX and 251. The FCX bus line runs from the project site to downtown San Francisco and the 251 bus line runs from the project site to downtown Foster City, the Hillsdale Mall, and the Hillsdale Caltrain Station.

Figure 3-1 depicts the site's regional and local context. Figure 3-2 is an aerial photograph of the project site and the vicinity.

3.1.2 Site Characteristics and Current Site Conditions

The generally level project site is currently developed with a single-story, approximately 10,120-square-foot vacant commercial building. The existing building was constructed in approximately 1990 and was previously occupied by a restaurant (El Torito) until November 2018. Ingress and egress to the project site is provided by a driveway at the northeast corner of the project site along Vintage Park Drive and another driveway at the southwest corner of the site along Chess Drive. A total of 178 surface parking spaces are provided across the project site. Vegetation on the site consists of small landscaped areas along the eastern border of the project site and approximately 55 mature trees throughout the site.

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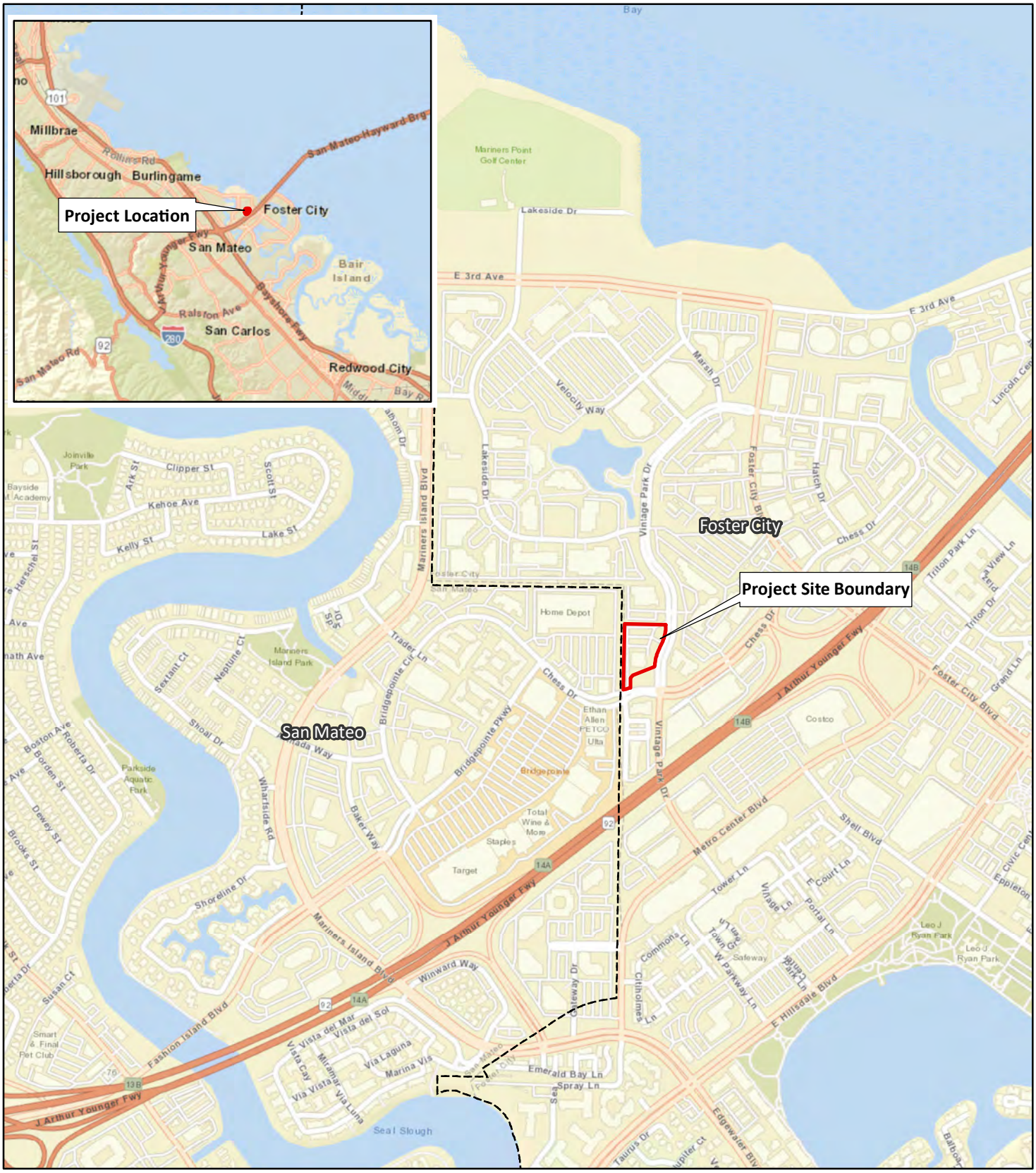


LSA

LEGEND

Project Site Boundary

FIGURE 3-1

N

0 500 1000

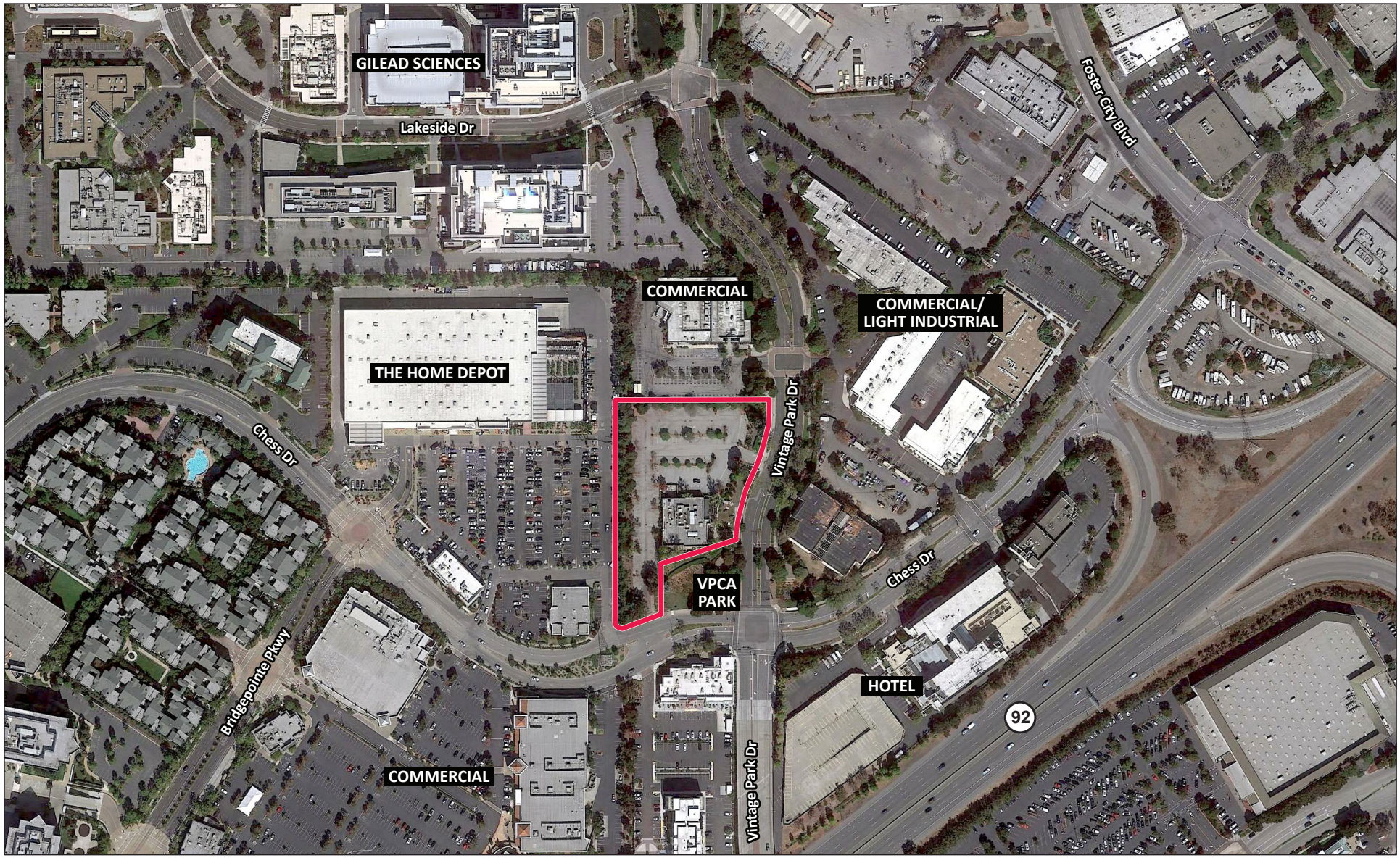
FEET

SOURCE: ESRI World Map (06/19).

I:\CFS2101\GIS\Maps\Figure 3-1_Project Location and Regional Vicinity Map.mxd (6/14/2021)

388 Vintage Park Drive Project EIR

Project Location and Regional Vicinity Map



LSA

FIGURE 3-2

0 200 400
FEET

N

Project Site Boundary

388 Vintage Park Drive Project EIR

Aerial Photograph of the Project Site and Surrounding Land Uses

SOURCES: Google Earth, 9/26/2020; LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-2.ai (6/10/2021)

The site has a number of existing easements, including an approximately 35-foot-wide Estero Municipal Improvement District (EMID) landscape and sanitary sewer easement along the eastern boundary, a 25-foot emergency vehicle access easement that runs along the western and northern borders, a 12-foot public utility easement along the southern border, and a 10-foot Pacific Gas & Electric Company (PG&E) easement in the northeastern corner.

Existing site conditions are depicted in Figure 3-3. Figure 3-4 depicts an aerial view of the project site and photos of existing site conditions are depicted in Figure 3-5; viewpoint locations are shown in Figure 3-4.

3.1.3 Regulatory Setting

The project site is within the Vintage Park Neighborhood, which is currently designated Research/Office Park in the City of Foster City's (City) General Plan.[1] This designation is intended for areas containing office, research and development, and manufacturing establishments whose operations are clean and quiet. Mixed-use projects that include some retail and residential uses in addition to office and research uses may, under certain conditions, be considered compatible with this designation.[2] The Vintage Park Design Guidelines Land Use Map[3] designates the site as "restaurant."

The project site is within the Commercial Mix District/Planned Development Combining District (C-M/PD). The C-M zoning allows for mixed commercial uses such as retail. However, the C-M district is required to be used only in conjunction with the combining zone PD, which is designed to accommodate various types of development and allow flexibility of design that is in accordance with the objectives and spirit of the General Plan. The current zoning for the project site is established by the Vintage Park General Development Plan (GDP), which designates the project site as a restaurant site.

3.1.4 Surrounding Land Uses

The project site is in the Vintage Park neighborhood in the northwest portion of the city at the municipal boundary between Foster City and San Mateo County. The Vintage Park neighborhood is generally bounded by the San Francisco Bay to the north, Foster City Boulevard to the east, SR-92 to the south, and the municipal boundary of San Mateo to the west. The project site is generally surrounded by a mix of uses, consisting mostly of new construction, as depicted in Figure 3-2 and further described below. Figures 3-6 and 3-7 include photos of surrounding land uses; refer to Figure 3-4 for photo viewpoint locations.

- **North of the Project Site.** The project site is bordered to the north by a commercial building (Photo 3; Figure 3-6). Further north of the project site is the Gilead Sciences, Inc. (Gilead) campus, Vintage Park Drive, and light industrial and commercial uses. The Gilead campus consists of approximately 23 life sciences and research and development (R&D) buildings, as well as associated parking and open space.

1 Foster City, City of. 2016. *Foster City General Plan*. February 1.
2 Foster City, City of. 2021a. *Foster City Municipal Code* (as amended). Title 17. January 19.
3 Foster City, City of. 2021b. *Vintage Park Design Guidelines.* January 22.

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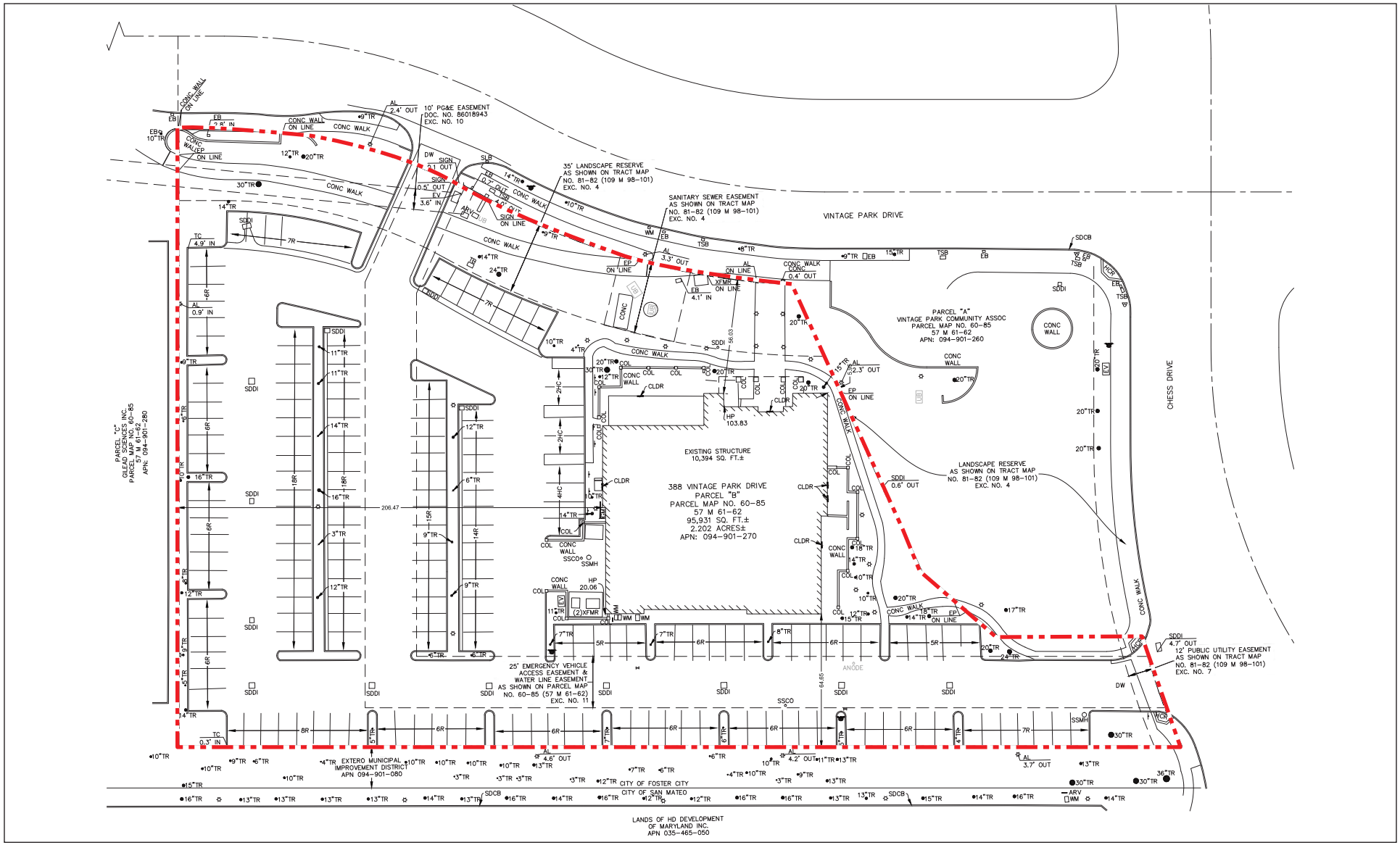

FIGURE 3-3

LSA

0 80 160
FEET

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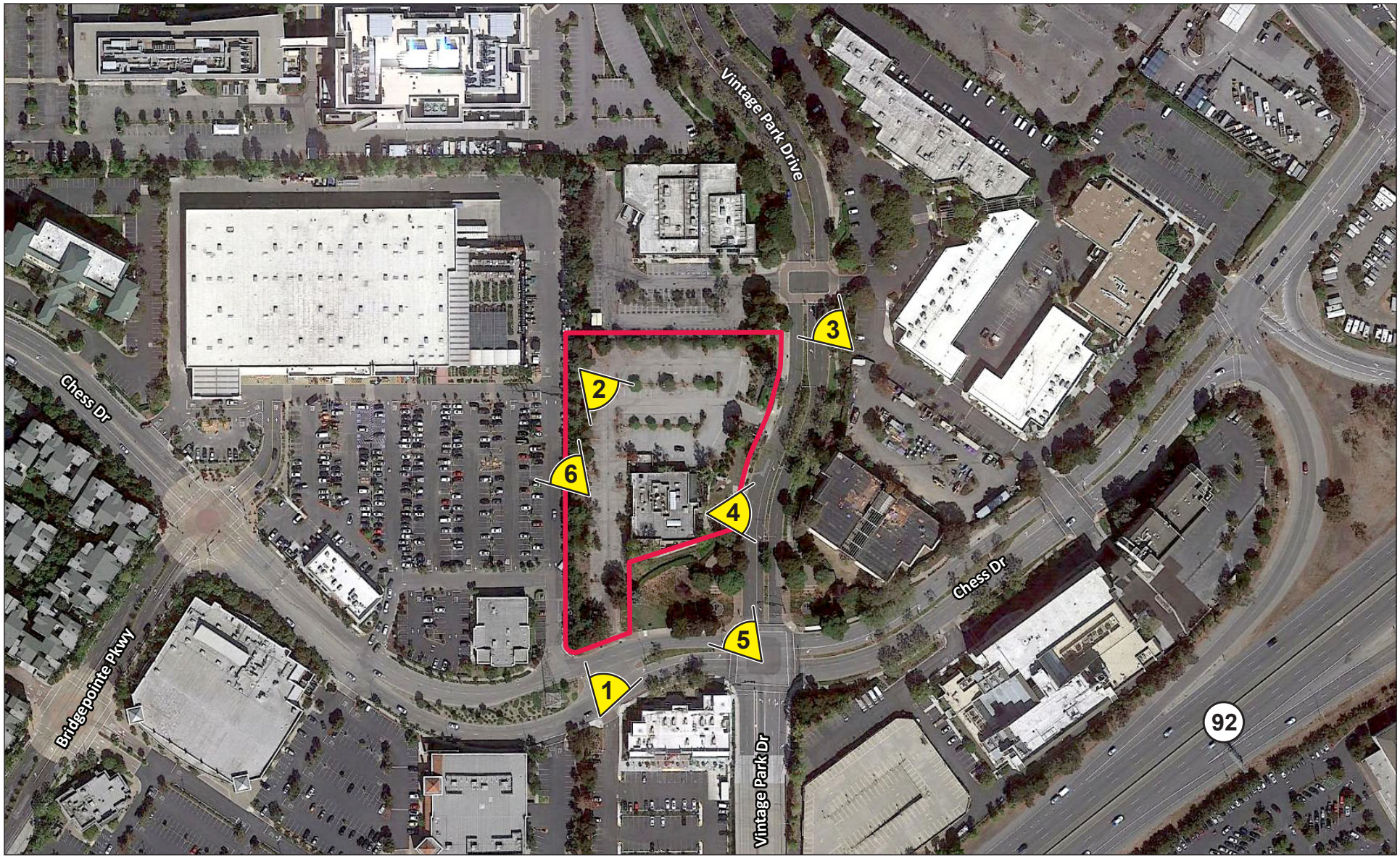
Project Site Boundary

388 Vintage Park Drive Project EIR
Existing Site Conditions

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-3.ai (6/10/2021)



LSA

FIGURE 3-4

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4 Photo Locations (Figures 1-5 and 1-14 through 1-15)

Project Site Boundary

388 Vintage Park Drive Project EIR

Photo Locations Map

SOURCES: Google Earth, 9/26/2020; LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-4.ai (6/21/2021)

Photo 1: View of the project site from Chess Drive, looking north

Photo 2: View from the northwest corner of the project site, looking southeast

LSA

FIGURE 3-5

388 Vintage Park Drive Project EIR
Photos of Existing Site

SOURCE: LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-5.ai (7/29/2021)

Photo 3: Photo of the commercial building north of the project site, as seen from Vintage Park Drive

Photo 4: Photo of the commercial building east of the project site, as seen from Vintage Park Drive

LSA

FIGURE 3-6

388 Vintage Park Drive Project EIR
Photos of Surrounding Land Uses

SOURCE: LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-6.ai (7/29/2021)

Photo 5: Photo of the VPCA park south of the project site, as seen from the intersection of Vintage Park Drive and Chess Drive

Photo 6: Photo of The Home Depot from the project site, looking west

LSA

FIGURE 3-7

388 Vintage Park Drive Project EIR
Photos of Surrounding Land Uses

SOURCE: LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-7.ai (7/29/2021)

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- **East of the Project Site.** The project site is bordered immediately to the east by Vintage Park Drive, which is a four-lane divided roadway in the vicinity of the project site. Further east of the project site are commercial and hotel uses (Photo 4; Figure 3-6), as well as the Foster City Boulevard on- and off-ramps for SR-92.

- **South of the Project Site.** The project site is bound immediately to the south by a small park owned by the Vintage Park Community Association (VPCA) (Photo 5; Figure 3-7). Further south is Chess Drive, across which are commercial and hotel uses and SR-92.

- **West of the Project Site.** The project site is bordered to the west by The Home Depot commercial warehouse building (Photo 6; Figure 3-7), past which are hotel and commercial uses. Bridgepoint Circle is farther west, across which are residential, commercial, and institutional uses.

3.2 PROJECT OBJECTIVES

As provided by the project sponsor, the objectives of the proposed project are to:

- Align with Foster City General Plan policies designating the project site for research/office park uses

- Activate a significant but previously neglected intersection and entrance into the Vintage Park Neighborhood

- Create more economic development opportunities in Foster City

- Support existing businesses within Foster City by bringing additional workers into the city;

- Increase the amount of life sciences research facilities available in Foster City to create economic benefit to the city

- Create a modern, efficient, and attractive building that will attract life science tenants to Foster City

- Enhance Foster City's reputation as a center for life science companies within the greater San Francisco Bay Area

3.3 PROPOSED PROJECT

This section provides a description of the proposed project as identified in the project sponsor's application materials submitted to the City, dated July 16, 2021.[4] The proposed project would result in the demolition of the existing restaurant building and construction of a 120,164-square-foot, four-

[4] It should be noted that project plans, including total building square footage, parking count and other project elements, may be subject to refinement prior to City action on project entitlements. The analysis in this Initial Study is conservative and evaluates the maximum development potential for the proposed project.

story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) office building including a ground-level parking podium and surface parking totaling 210 vehicle spaces, as well as associated open space, circulation and loading, and infrastructure improvements.

Figure 3-8 depicts the overall proposed conceptual site plan for the proposed project. Figures 3-9 through 3-11 depict the proposed conceptual site plans for the ground level through the fourth floor of the proposed building. The roof plan is shown in Figure 3-12. Figures 3-13 and 3-14 show proposed conceptual building elevations, and Figure 3-15 shows the proposed conceptual sections.

3.3.1 Building Program

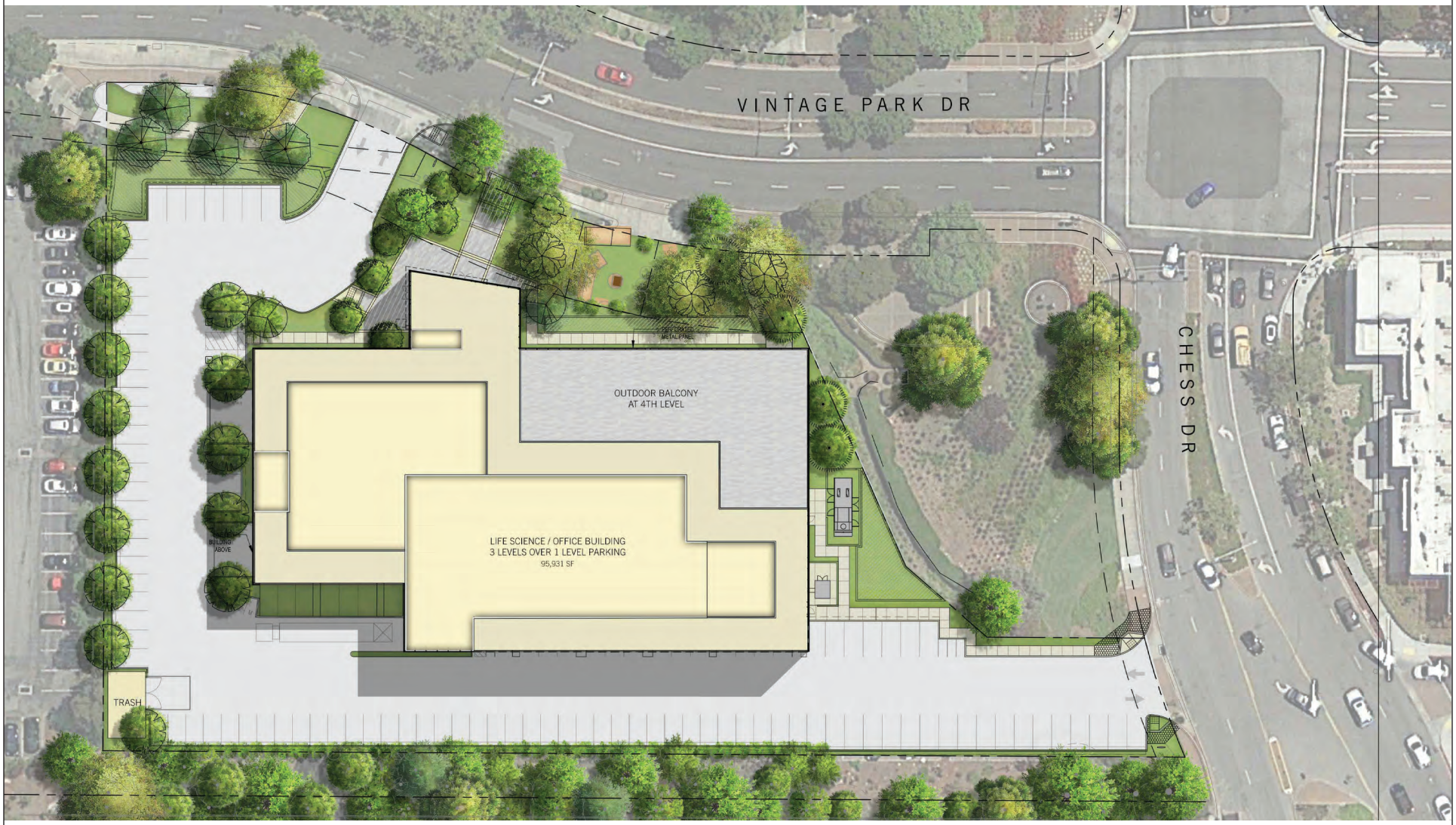
The proposed project would result in the redevelopment of the project site with a four-story "B occupancy"[5] R&D office use that would include three levels of occupied space above a single level of ground-floor parking. The proposed building would be in the center of the project site as shown in Figure 3-8. The second and third floors of the proposed building would each be approximately 33,000 square feet in size, while the fourth floor would be approximately 27,000 square feet. A total of 95,931 square feet of R&D space is proposed, approximately 50 percent of which would be laboratory space and 50 percent would be office space, distributed evenly throughout each floor. The mechanical penthouse would occupy approximately 20,000 square feet on the rooftop. The penthouse would be screened in metal cladding and would only be accessible to facility management and engineers.

It is anticipated that the project site would accommodate 213 employees, with variations throughout the day due to the nature of R&D uses, which typically operate outside of traditional office hours.

3.3.2 Open Space and Landscaping

A total of approximately 28,000 square feet of open space would be provided across the entire project site. Open space would consist of approximately 22,000 square feet of ground level common open space and an approximately 6,000-square-foot terrace on the fourth level. Of the existing 55 trees on the project site, 53 would be removed. A total of 53 new trees would be planted throughout the project site. Additionally, another 61 off-site trees would remain around the project site, including within the EMID strip, in the VPCA park, and along the Vintage Park Drive frontage. Landscaping and other plantings would be provided through the project site, including adjacent to Vintage Park Drive.

[5] The California Building Code Business Group B occupancy includes the use of a building or structure for office and professional service-type transactions, including laboratories for testing and research. It should be noted that portions of the proposed project may be classified as "L Occupancy," which includes the use of a building or structure, or a portion thereof, containing one or more laboratory suites as defined in Section 443 of the California Building Code. As described in this chapter, the potential use of the building for laboratory space is analyzed throughout this EIR. Therefore, a change in occupancy from "B" to "L" would not result in any new or more significant environmental impacts.



LSA

FIGURE 3-8

Project Boundary

0 20 40
FEET

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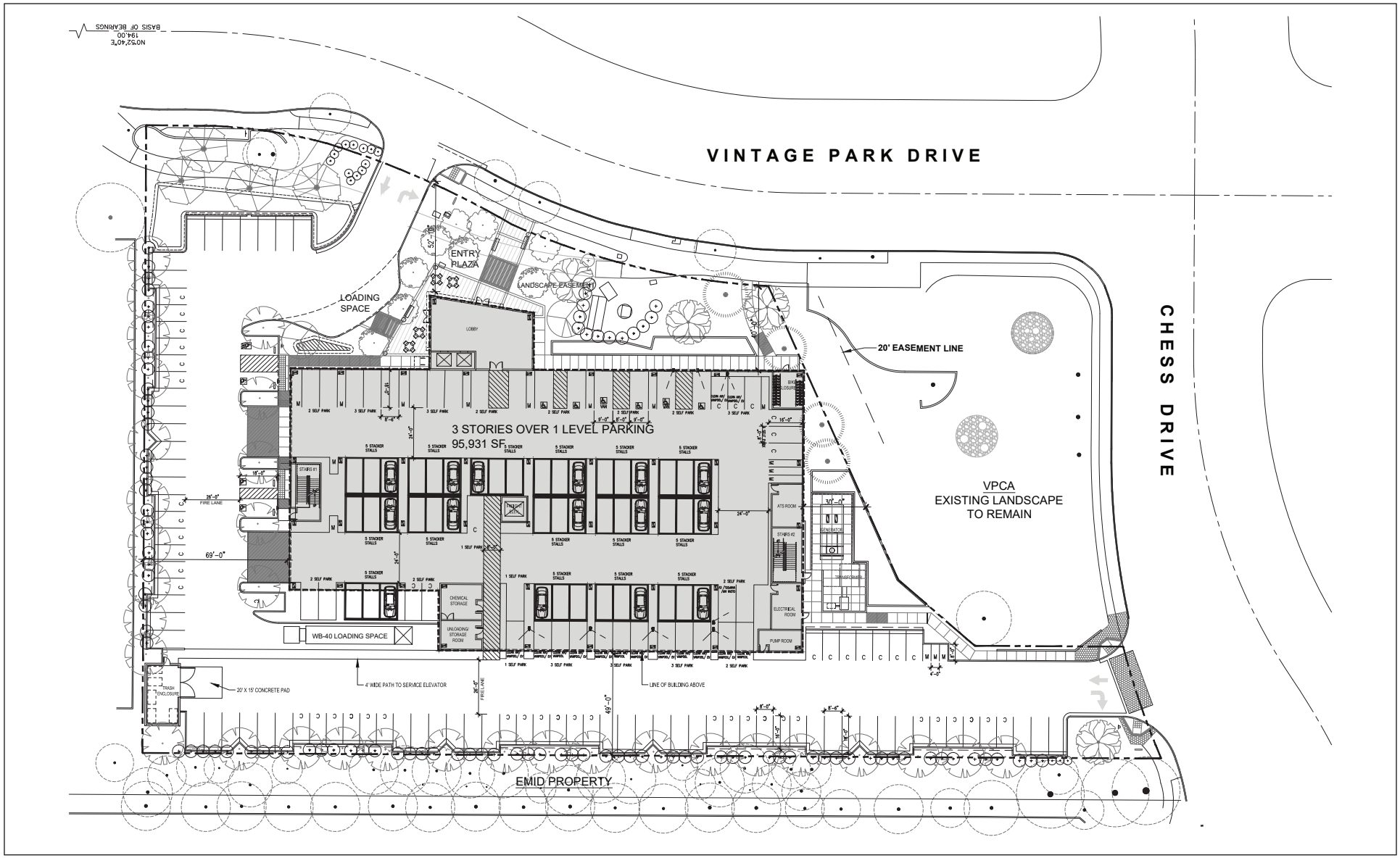
388 Vintage Park Drive Project EIR
Proposed Conceptual Site Plan

SOURCES: DES; HELIOS; STEELWAVE, April 18, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-8.ai (7/29/2021)



LSA

FIGURE 3-9

0 20 40
FEET

N

Project Boundary

388 Vintage Park Drive Project EIR
Conceptual Ground Level Floor Plan

SOURCES: DES; HELIOS; STEELWAVE, October 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-9.ai (12/7/2021)

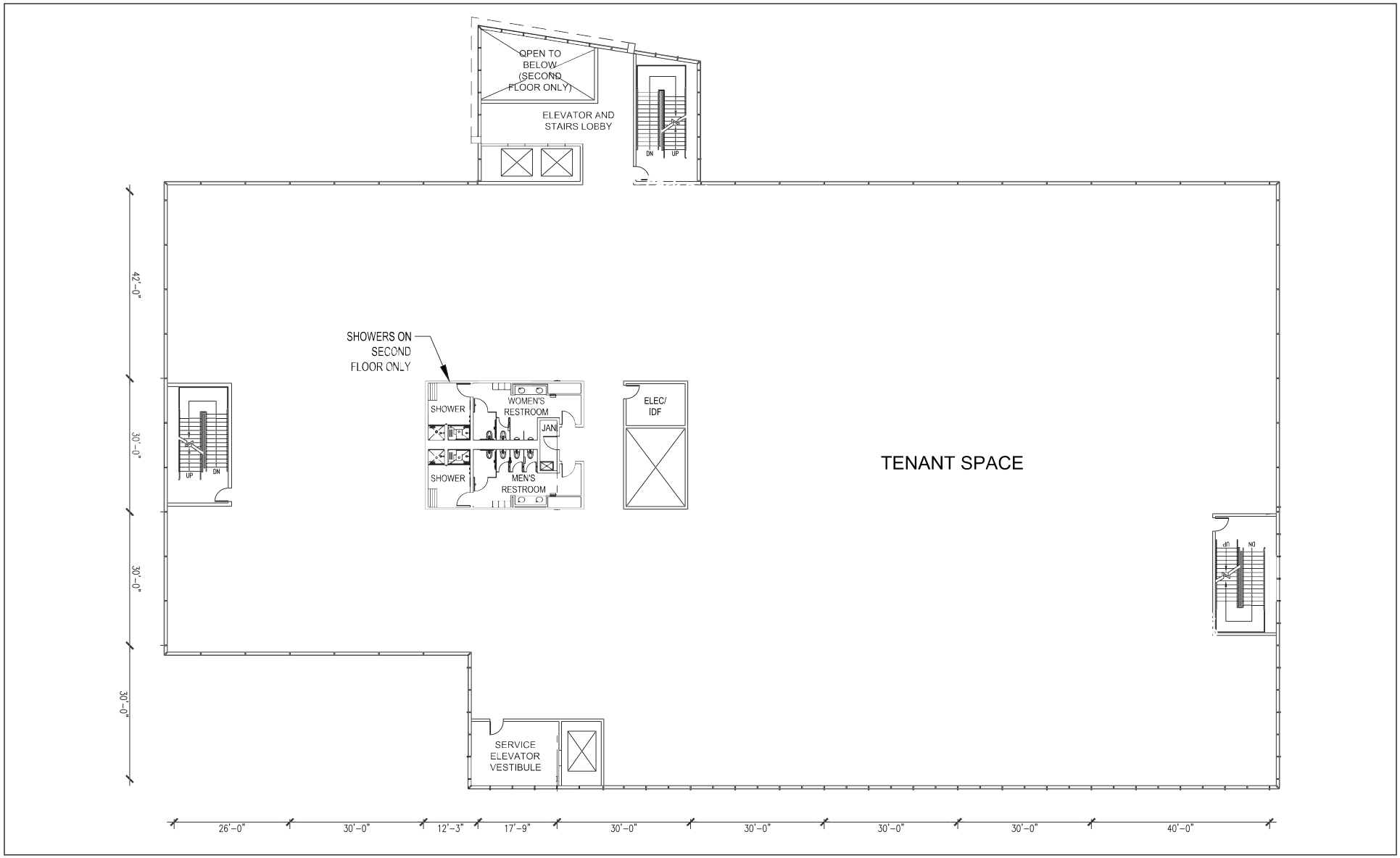


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FIGURE 3-10

0 16 32
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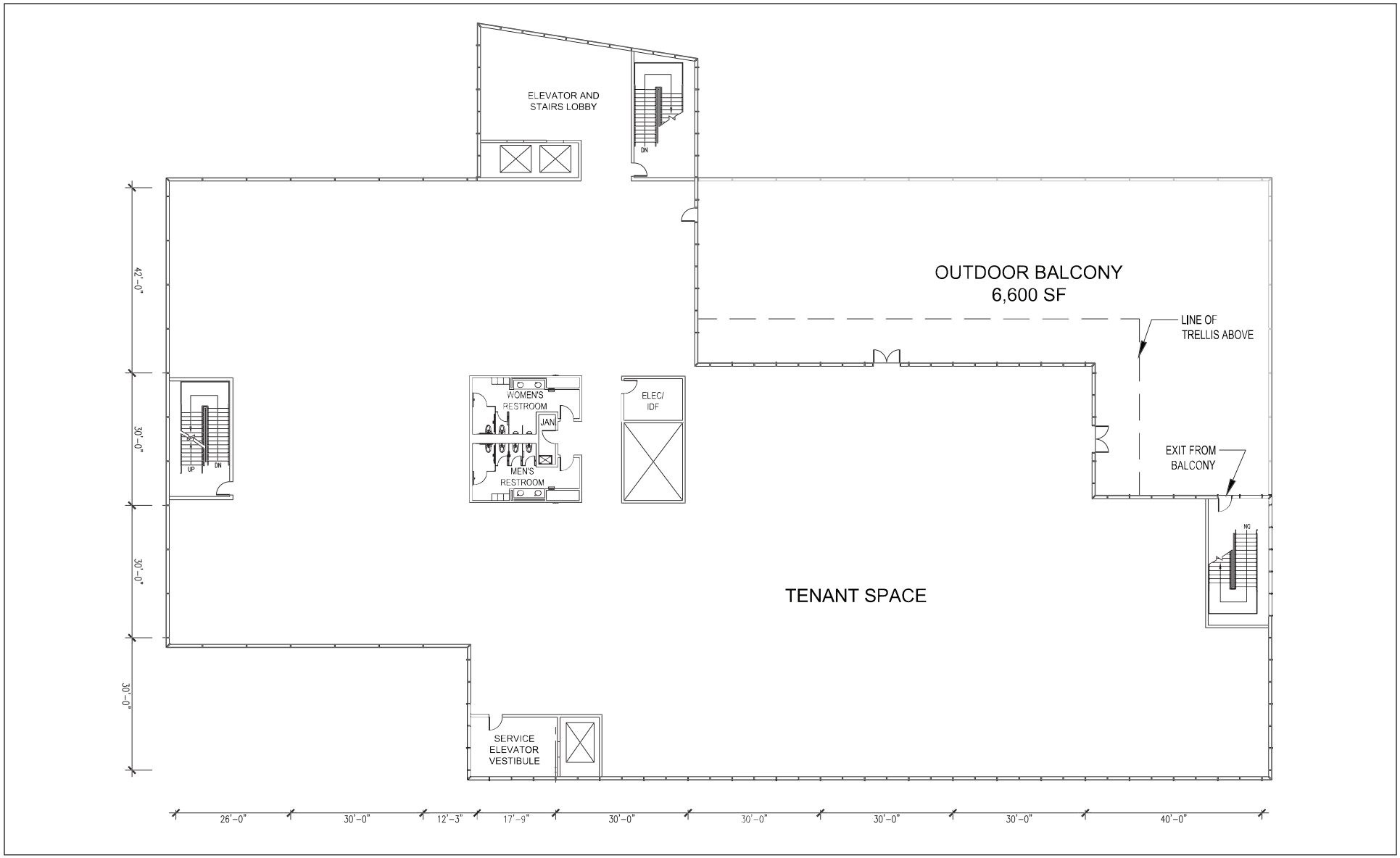
388 Vintage Park Drive Project EIR
Proposed Conceptual Second and Third Level Floor Plans

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-10.ai (7/29/2021)



LSA

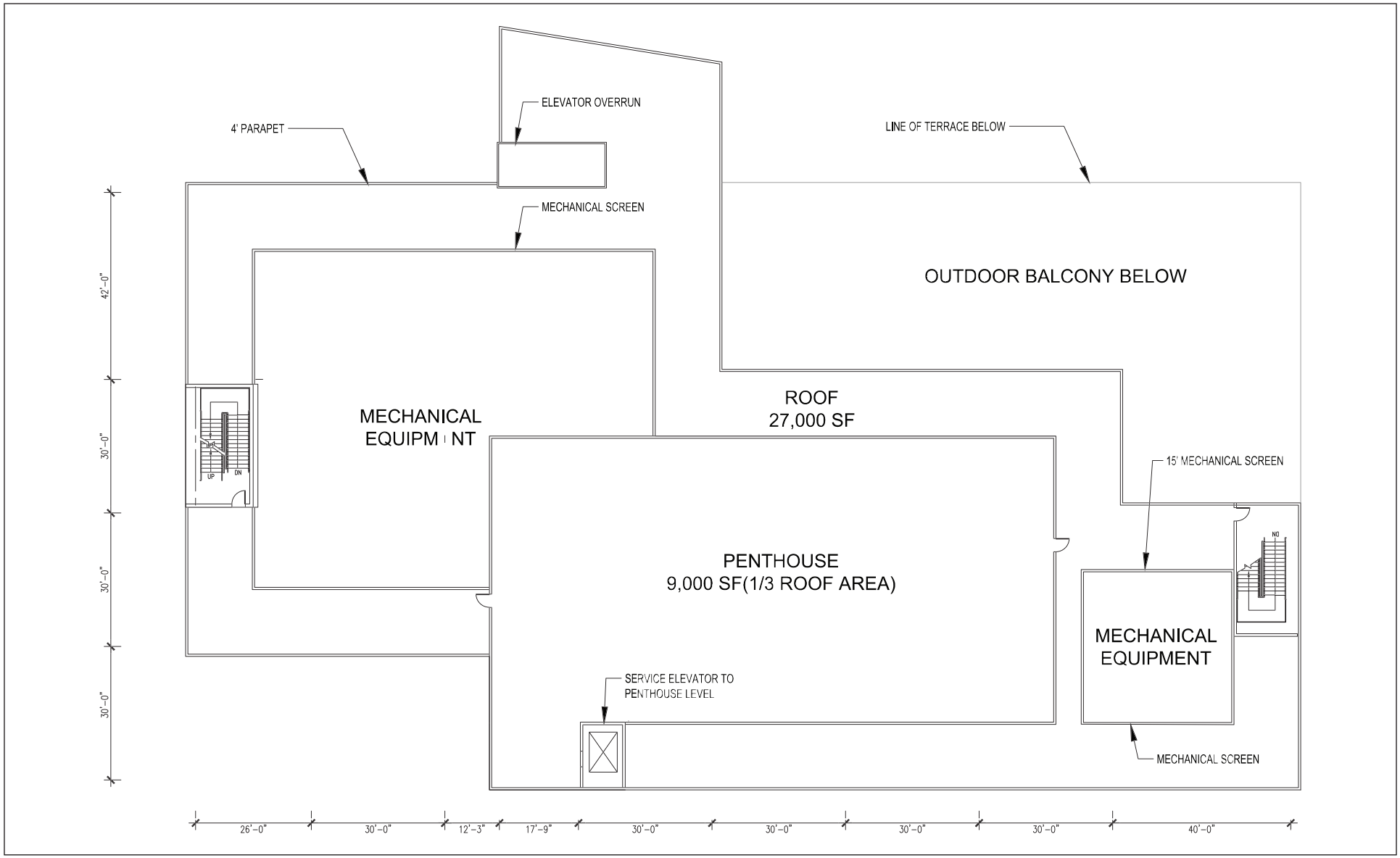
FIGURE 3-11

NOT TO SCALE

388 Vintage Park Drive Project EIR
Proposed Conceptual Fourth Level Floor Plans

SOURCES: DES; HELIOS; STEELWAVE, April 18, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-11.ai (7/29/2021)



LSA

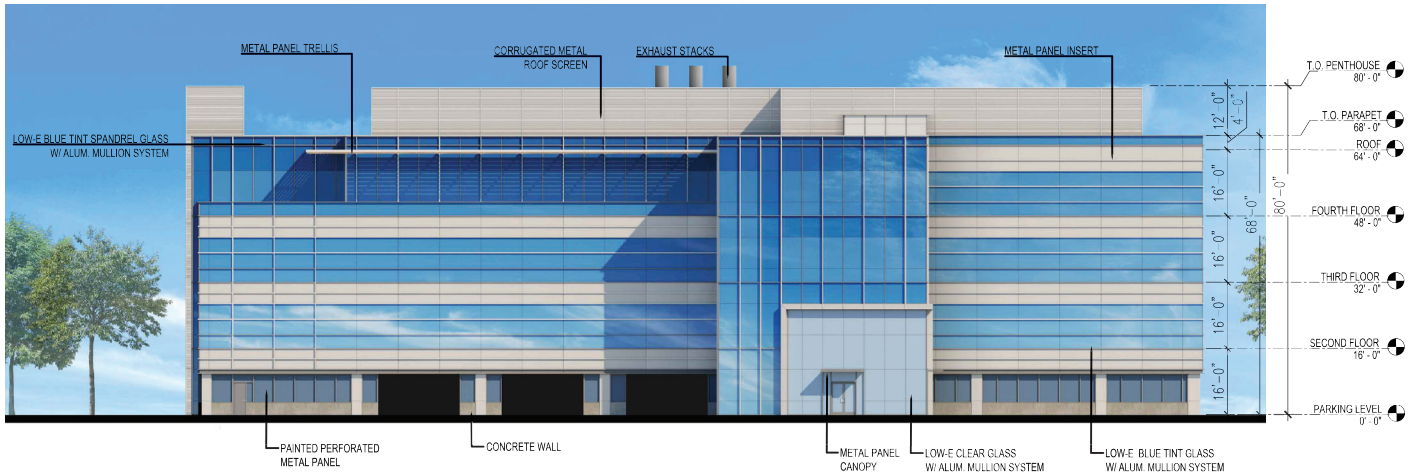
FIGURE 3-12

NOT TO SCALE

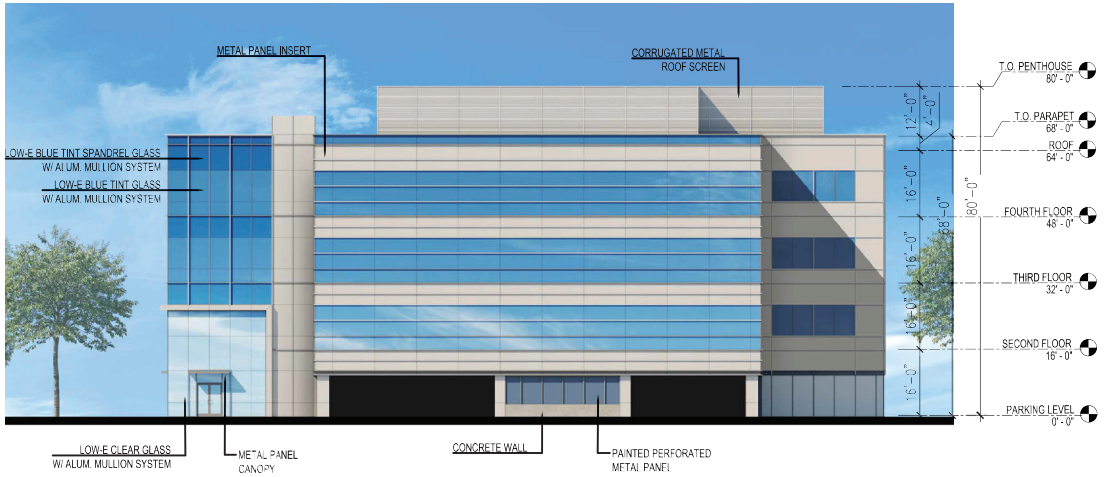
SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-12.ai (7/29/2021)

388 Vintage Park Drive Project EIR
Proposed Conceptual Roof Plan



East Elevation (façade along Vintage Park Drive)



North Elevation

LSA

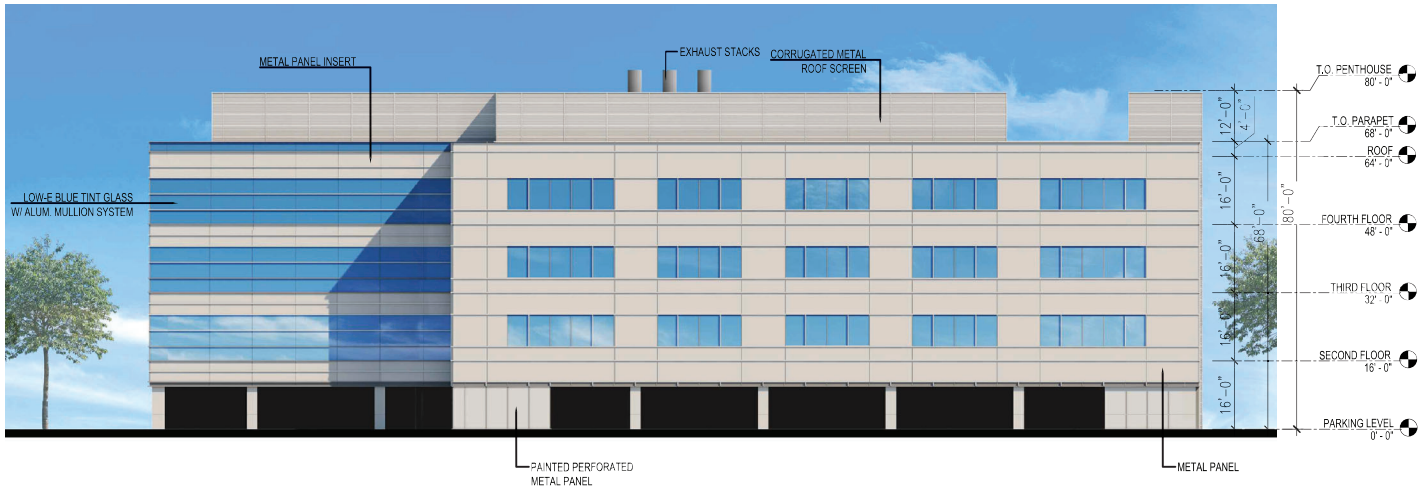
FIGURE 3-13

NOT TO SCALE

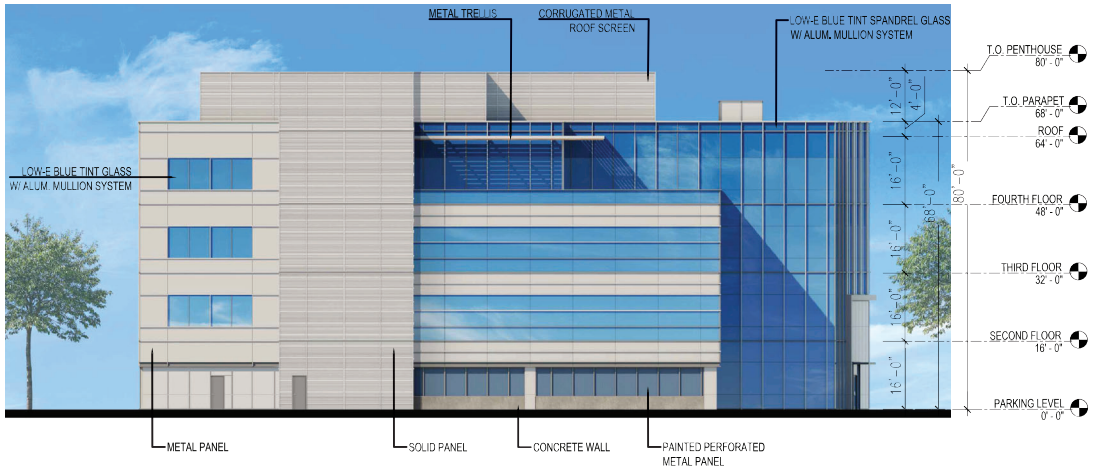
388 Vintage Park Drive Project EIR
Proposed Conceptual Building Elevations - East and North

SOURCES: DES; HELIOS; STEELWAVE, October 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-13.ai (12/7/2021)



West Elevation



South Elevation

LSA

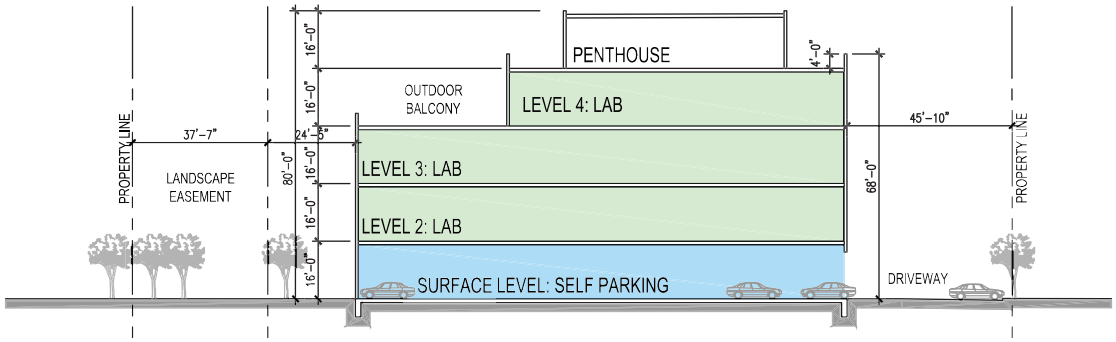
FIGURE 3-14

NOT TO SCALE

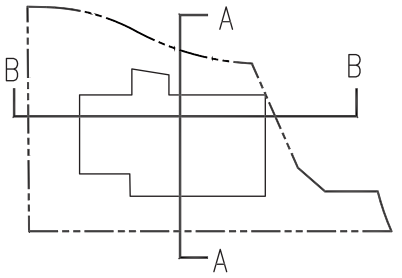
388 Vintage Park Drive Project EIR
Proposed Conceptual Building Elevations - South and West

SOURCES: DES; HELIOS; STEELWAVE, October 2021

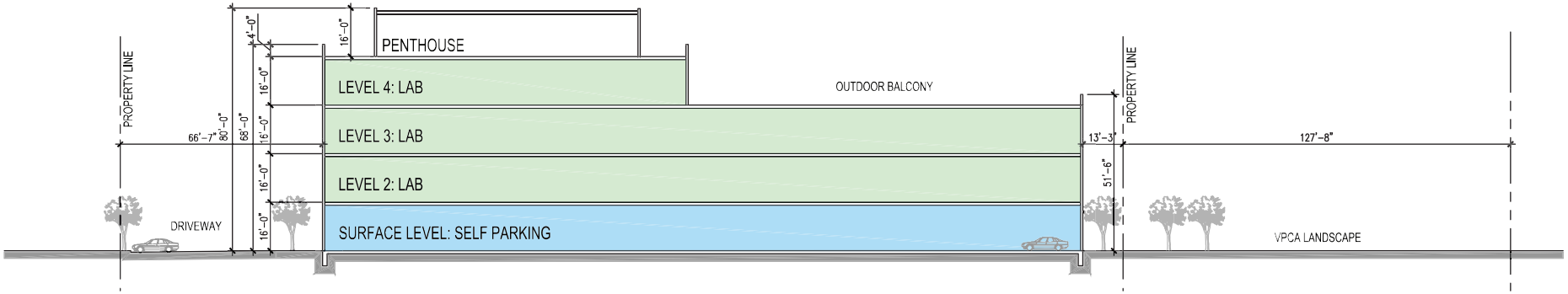
P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-14.ai (12/7/2021)



West to East Section - Section A



Key Plan



North to South Section - Section B

LSA

FIGURE 3-15

388 Vintage Park Drive Project EIR
Proposed Conceptual Building Sections

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 3-15.ai (7/29/2021)

3.3.3 Access, Circulation, and Parking

Pedestrian access to the proposed building would be provided by both Vintage Park Drive and Chess Drive, including new sidewalks connecting to Chess Drive and a landscaped area between the Vintage Park Drive right-of-way and the proposed building. Vehicular access to the project site would be provided by the existing driveways along Vintage Park Drive and Chess Drive.

The ground level of the proposed building would include a garage that would contain 102 parking spaces and would be accessed from a driveway at the northwest corner of the proposed building. An additional 108 surface parking spaces would be provided along the northern and western boundaries of the project site, for a total of 210 parking spaces. A total of 16 motorcycle parking spaces would be provided throughout the project site. A total of 20 bicycle parking spaces would be provided in a long-term storage room in the parking garage. A loading dock that would be able to accommodate a WB-40 truck[6] would be provided at the northwestern corner of the building. An additional loading zone for package drop off is proposed at the main entry.

3.3.4 Utilities, Infrastructure, and Easements

The project site is in an urban area with existing utilities and infrastructure. The proposed project would be required to install the following utility connections to the satisfaction of the applicable utility providers: water, wastewater, stormwater drainage, power, and telecommunication services. The proposed building would also include a pad and an enclosure for a future tenant-supplied generator. The generator would be south of the proposed building in a perforated metal panel enclosure approximately 14 feet in height.[7]

The existing project site includes 76,196 square feet of impervious surfaces and approximately 19,735 square feet of pervious surfaces. The proposed project would result in a net increase in impervious surface coverage of 3,052 square feet (4 percent increase) compared to existing conditions for a total of 79,248 square feet of impervious surface and 16,683 square feet of pervious surface.

The on-site stormwater would be collected, treated per C.3 treatment methods, and conveyed to the City's storm drain main within Vintage Park Drive. The proposed project would decrease the amount of landscaping and pervious area on-site as noted above; therefore, the amount of storm water run-off from the site is expected to increase.

The proposed project would include energy efficient components and design features to achieve Leadership in Energy and Environmental Design (LEED) Silver equivalence. Specifically, measures to achieve this standard would include exterior Low-E glazing to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for electric vehicle charging, and enhanced indoor air quality strategies including advanced ventilation.

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6 A WB-40 truck is defined as a medium- to large-sized box truck or tractor trailer with a 40-inch wheelbase.

7 For the purposes of this analysis, this generator is assumed to be a 250-kilowatt diesel generator that would operate 52 hours per year (1 hour per week) for testing and would be used for emergency backup only.

The proposed building would be generally within the same footprint as the existing building. The project sponsor is currently pursuing establishment of a new no-build and maintenance easement with the VPCA.

3.3.5 Demolition, Grading, and Construction

The proposed project would include demolition of the existing building and surface parking lots on the project site. Construction debris, such as old foundations, pavements, and structures, would be collected and hauled off site for disposal. Approximately 180 tons of demolition waste would be generated by the proposed project and approximately 75 percent of those materials would be recycled.[8] Other than spoils, excavated soils would be balanced on the project site and, therefore, would not require substantial import or export. The project sponsor proposes to implement displacement auger cast piles or vibrated-in H steel piles for foundation installation; pile driving is not proposed.[9]

If approved, construction of the proposed project is anticipated to begin in spring 2022. Overall, construction of the proposed project is anticipated to last approximately 17 months and is anticipated to be fully operational and occupied by late 2023.

3.4 PERMITS AND APPROVALS

A number of permits and approvals would be required to allow development of the proposed project. As lead agency for consideration of the proposed project, the City would be responsible for the majority of the approvals required for project development. Other agencies also may have some authority related to the proposed project and its approvals. Table 3.1 provides a list of required permits and approvals, including the discretionary actions described above, that the City and other agencies may require.

In addition, development of the proposed project, if approved, would be subject to the City's standard Conditions of Approval (COA) for all Major Use Permits. Applicable COAs are identified in Chapter 4 of this EIR.

[8] Tubbs, Curtis, Project Construction Contractor. 2021. Personal communication with Peter Banzhaf, Project Sponsor. June 30.

[9] Rockridge Geotechnical. 2021a. 388 Vintage Parkway Geotechnical Consultation regarding H-piles. June 30.

Table 3.1: Anticipated Permits and Approvals for Project Implementation

Lead Agency	Permit/Approval
City of Foster City	● Environmental Review ● General Development Plan Amendment/Rezoning ● Specific Development Plan/Use Permit ● Use Permit Modification (Amendments to Vintage Park Design Guidelines) ● Encroachment Permit ● Transportation Permit
Responsible Agencies	
Bay Area Air Quality Management District (BAAQMD)	● Permits for on-site generators, boilers, and other utility equipment
California Department of Transportation (Caltrans)	● Review of traffic circulation effects and consultation on potential traffic improvements that may affect State highway facilities, ramps, and intersections
California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program	● Compliance with National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Municipal Regional Permit
City/County Association of Governments	● Review of potential effects on Routes of Regional Significance
San Mateo County Environmental Health Division	● Review of on-site generators
San Mateo County Transportation Authority	● Review of potential effect on public transit
San Mateo Consolidated Fire Department	● Commercial Site Plan review ● Emergency Vehicle Access approval
San Mateo Union High School District	● School District Certification of School Impact Fees
San Mateo-Foster City School District	● School District Certification of School Impact Fees
City of San Mateo	● Encroachment Permit for potential traffic control on Chess Drive ● Industrial Waste Discharge Permit
Recology	● Approval of on-site trash/recyclables access

Source: Compiled by LSA (2021).

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4.0 SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter contains an analysis of each potentially significant environmental impact that has been identified for the proposed 388 Vintage Park Drive Project (project). The following (1) identifies how a determination of significance is made, (2) identifies the environmental issues addressed in this chapter, (3) describes the context for the evaluation of cumulative effects, (4) lists the format of the topical issue section, and (5) provides an evaluation of each potentially significant impact in Sections 4.1 through 4.9. The analysis in this section was prepared in compliance with the City of Foster City/Estero Municipal Improvement District Environmental Review Guidelines.[1]

DETERMINATION OF SIGNIFICANCE

The California Environmental Quality Act (CEQA) defines a significant effect as a substantial, or potentially substantial, adverse change in the environment.[2] The "environment" means the physical conditions, which exist in the area including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Each impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the *State CEQA Guidelines* and applicable City of Foster City (City) policies. In determining whether a project's impacts are significant, an Environmental Impact Report (EIR) ordinarily compares the environmental conditions with the proposed project with existing environmental conditions, which are referred as the "baseline" for the impact analysis. This EIR compares the potential environmental impacts of the proposed project with the baseline environmental conditions in existence at the time that the Notice of Preparation was published on July 21, 2021.

ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.9 of this chapter describe the environmental setting of the project as evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate. The following environmental issues are addressed in this chapter:

4.1 Land Use and Planning
4.2 Aesthetics
4.3 Transportation
4.4 Air Quality
4.5 Greenhouse Gas Emissions
4.6 Noise
4.7 Hazards and Hazardous Materials
4.8 Public Services
4.9 Utilities and Service Systems

[1] Foster City, City of/Estero Municipal Improvement District. 2007. *Environmental Review Guidelines.* October 1.

[2] Public Resources Code Section 21068.

Preliminary analysis provided in the Initial Study (Appendix B) determined that development of the proposed project would not result in significant impacts to the following environmental topics: agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, mineral resources, population and housing, recreation, tribal cultural resources, and wildfire. Consequently, these issues are not examined in this EIR and are briefly addressed in Chapter 6, Other CEQA Considerations.

Section 4.1 discusses consistency with the City's land use and planning policies, including the General Plan and the Zoning Ordinance. It should be noted that, according to CEQA, policy conflicts do not, in and of themselves, constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. Any such associated physical environmental impacts are discussed in the Initial Study or appropriate sections of this EIR. City decision-makers will further evaluate zoning compliance and other policy considerations when considering approval of the proposed project.

As previously discussed in Chapter 3, Project Description, the proposed project would be required to comply with all applicable standard Conditions of Approval (COA) required by the City for approval of Major Use Permits. Applicable COAs are identified in the regulatory setting section for each environmental topic evaluated in this chapter. The proposed project has been determined to have less than significant impacts in a number of topic areas within the Initial Study (refer to Appendix B and Chapter 6, Other CEQA Considerations, of the EIR) and in Chapter 4 of this EIR, based on compliance with the City's COAs. Applicable COAs will be included in the Mitigation Monitoring and Reporting Program that the City adopted if the EIR is certified.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. These impacts can result from a combination of the proposed project together with other projects causing related impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The methodology used for assessing cumulative impacts typically varies depending on the specific topic being analyzed. CEQA requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This project-specific analysis employs both the list-based and projection-based approaches, depending on which approach best suits the resource topic being analyzed.

The cumulative land use assumptions include projections for year 2050 by the Association of Bay Area Governments and the Metropolitan Transportation Commission with refinements to reflect development projects under construction, approved, and pending in Foster City.

The cumulative context for land use development project effects is typically localized within the immediate vicinity of the project site or at the neighborhood level. Cumulative development in the project vicinity (within an approximately 0.25 mile radius of the project site) includes the projects listed in Table 4.A. These projects are either projects for which the City has a project application on file or projects that have been entitled but were not yet operational at the time that the EIR analysis began (July 2021). Refer to the appropriate discussion in each topical section for further discussion of the cumulative assumptions relevant to each issue topic.

Table 4.A: Cumulative Projects in the Vicinity of the Project Site

Project/Location	Project Description	Project Status
Pilgrim Triton	Addition of 332 dwelling units, 10,000 square feet of retail, and 35,000 square feet of office	Under Construction
Gilead Campus Master Plan	Addition of 1,044,000 square feet of office	Under Construction
Foster Square Adjacent to the Foster City Government Center	Development of 152 senior housing units, 90 assisted living units, and 30,000 square feet of retail	Completed
Lincoln Centre 200–850 Lincoln Centre Drive	Development of 388,000 square feet of office and 166,000 square feet of laboratory space	Completed
Charter Square School 1050 Shell Boulevard	Demolition of 58,000 square feet of retail use and construction of a new school with an enrollment capacity of 600 students	Completed
Chess Hatch Master Plan	Demolition of 190,000 square feet of office and replacement with 80,000 square feet of new office	Entitlements Approved
Metro Center Hotel southwest corner of Metro Center Boulevard and Shell Boulevard intersection	Development of an 83,000-square-foot hotel	Entitlements Approved

Source: Compiled by Fehr & Peers (2021).

FORMAT OF ISSUE SECTIONS

The environmental topical section is composed of two primary parts: (1) Setting, and (2) Impacts and Mitigation Measures. The following provides an overview of the general organization and the information provided in the two parts:

- **Setting**. The Setting section for the environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the project site and its surroundings in Foster City. It also provides an overview of regulatory considerations, including COAs, that are applicable to each specific environmental topic.

- **Impacts and Mitigation Measures**. The Impacts and Mitigation Measures section for each environmental topic presents a discussion of the potential impacts that could result from

implementation of the proposed project. The section begins with the criteria of significance, which are the thresholds used to determine whether an impact is potentially significant. The latter part of this section presents the potential impacts from the proposed project and mitigation measures, if necessary. The potential impacts of the proposed project are organized into separate categories based on the criteria listed in each topical section. Cumulative impacts are also addressed.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA). The following symbol is used for individual topics:

LU Land Use and Planning
AES Aesthetics
TRA Transportation
AIR Air Quality
GHG Greenhouse Gas Emissions
NOI Noise
HAZ Hazards and Hazardous Materials
PUB Public Services
UTL Utilities and Service Systems

Impacts are also categorized by type of impact, as follows: Less Than Significant (LTS), Significant (S), and Significant Unavoidable (SU). These notations indicate the significance of the impact with and without mitigation.

4.1 LAND USE AND PLANNING

This section describes the existing land uses on and around the project site. It identifies potential impacts related to land use and planning that could result from development of the proposed project and recommends mitigation measures, as appropriate.

This section also evaluates the proposed project's consistency with applicable planning policies. While this section contains a discussion of the consistency of the project with relevant land use policies, policy conflicts, in and of themselves, do not constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts when they would result in direct physical impacts. Therefore, this section discusses land use policies for informational purposes only. All other associated physical impacts are discussed in this EIR in specific topical sections, as applicable.

4.1.1 Setting

The following subsections provide an overview of the project location, the project site, and adjacent existing and planned land uses.

4.1.1.1 Overview

Foster City is 19.8 square miles and is on the western shore of San Francisco Bay in San Mateo County. The city is bordered to the north and east by the San Francisco Bay, to the south by Redwood City and Belmont, and to the west by San Mateo. Foster City is a "Planned Community", constructed and implemented through an organized program of development.[1] The city was originally designed in the 1960s as a suburban community with a clear community center and an industrial base to support required services.[2] The city was constructed on reclaimed marshlands, previously used for dairy farming, and salt ponds. Development within the city is guided and limited by the natural, often water-oriented, constraints of the filled marshlands.

The project site is in northeast Foster City and is approximately 23 miles south of San Francisco, as shown in Figure 3-1 in Section 3, Project Description. The project site is within Foster City's Vintage Park neighborhood, which is characterized by a mix of pharmaceutical, office, research and development, light industrial, hotel, restaurants, and retail land uses generally north and east of State Route 92 (SR-92) adjacent to existing light industrial development in Foster City and existing residential development in the city of San Mateo. Regional access to the project site is provided by SR-92 via the on- and off-ramps along Foster City Boulevard to the east.

4.1.1.2 Existing Land Uses

The generally rectangular project site is 2.2 acres in size. The project site is currently developed with a single-story, 10,120-square-foot vacant commercial building on the southern half of the site. The site has a number of existing easements, including an approximately 35-foot-wide Estero Municipal Improvement District landscape and sanitary sewer easement along the eastern boundary, a 25-foot emergency vehicle access easement that runs along the western and northern borders, a 12-foot

1 Foster City, City of. History of Foster City. Website: https://www.fostercity.org/community/page/history-foster-city (accessed August 2021).

2 Foster City, City of. 2016a. *Foster City General Plan*. February.

public utility easement along the southern border, and a 10-foot Pacific Gas & Electric Company easement in the northeastern corner. The remainder of the project site contains a 178-space surface parking lot with ornamental vegetation. Ingress and egress to the project site is provided by a driveway at the northeast corner of the project site along Vintage Park Drive and another driveway at the southwest corner of the site along Chess Drive. Existing site conditions are depicted in Figures 3-3 and 3-5 in Chapter 3, Project Description.

4.1.1.3 Existing Land Uses in the Vicinity of the Project Site

The following provides a description of the existing land uses within the vicinity of the project site. Land uses adjacent to the site are generally identified in Figure 3-2 in Chapter 3, Project Description and are depicted in Figures 3-6 and 3-7.

Areas to the North. The project site is bordered immediately to the north by a commercial building and associated parking lot. Further north of the project site is the Gilead Sciences, Inc. (Gilead) campus, Vintage Park Drive, and light industrial and commercial uses. The Gilead campus consists of 23 life sciences and research and development (R&D) buildings, as well as associated parking and open space. San Francisco Bay is approximately 1 mile north of the project site.

Areas to the East. The project site is bounded to the east by Vintage Park Drive, which is a four-lane divided roadway in the vicinity of the project site. Across Vintage Park Drive are a mix of commercial uses, including office buildings, a hotel, restaurants, and SR-92, which forms the eastern and southern boundary of the Vintage Park neighborhood. Land uses across SR-92 include a mix of commercial and multifamily residential in the vicinity of Metro Center Boulevard, commercial along Foster City Boulevard, and single-family and open-space uses adjacent to the Foster City Lagoon.

Areas to the South. The project site is bounded immediately to the south by a small park owned by the Vintage Park Community Association (VPCA) and Chess Drive. This park includes a walking path, small plaza with benches, and landscaped drainage areas and a small lawn. Across Chess Drive are a mix of commercial uses, including retail, restaurants, and a hotel. As described above, SR-92 also forms the southern boundary of the Vintage Park neighborhood. Land uses south of SR-92 generally consist of commercial office buildings along Metro Center Boulevard, past which are single- and multifamily residential uses on either side of Seal Slough.

Areas to the West. The project site is bordered to the west by The Home Depot commercial warehouse building and surface parking lot. A mix of commercial uses, including a hotel and office buildings, and multifamily residential buildings, are farther west along Bridgepoint Circle. Seal Slough, which runs from north to south in the vicinity of the project site, is farther west. Single-family residential is generally the dominant use west of the slough, with some institutional and open space uses. The western edge of the project site is also the city limit of Foster City, and uses to the west are within the city of San Mateo.

4.1.1.4 Regulatory Framework

Planning and regulatory considerations that guide land use and development on the project site include the Foster City General Plan (General Plan), the Foster City Zoning Ordinance (Zoning Ordinance), Vintage Park Design Guidelines, and the San Mateo County Comprehensive Airport Land

Use Plan (CLUP). Brief descriptions of applicable land use and planning policies and requirements are provided below.

Foster City General Plan. The General Plan, adopted in February 2016,[3] is a document for the City of Foster City (City) that establishes the basis for zoning regulations and provides guidance in the evaluation of development proposals. The General Plan consists of six elements that cover issues including land use and circulation, housing, parks and open space, noise, safety, and conservation. A discussion of the applicable General Plan policies is included in Table 4.1.A at the end of this section.

The project site is currently designated Research/Office Park, which is intended for areas containing office, research and development, and manufacturing establishments with operations that are clean and quiet.

Foster City Zoning Ordinance. The Zoning Ordinance consists of a zoning map that delineates the boundaries of zoning designations within the city and regulations that govern the use of land and placement of buildings and improvements within the various classes of districts. The purpose of the Zoning Ordinance is to protect the health, safety, peace, morals, comfort, convenience, and general welfare of the people of Foster City, and to serve as an instrument for implementation of the General Plan. The project site is within the Commercial Mix District/Planned Development Combining District (C-M/PD). The C-M zoning allows for mixed commercial uses such as retail. However, the C-M district is required to be used only in conjunction with the combining zone PD, which is designed to accommodate various types of development and allow flexibility of design that is in accordance with the objectives and spirit of the General Plan. The current zoning for the project site is established by the Vintage Park General Development Plan (GDP), which designates the project site as a restaurant site.

Applications for development in a PD district must include a GDP/Rezoning that establishes design standards, development parameters, and traditional zoning standards such as site layout, setbacks, lot sizes, and building heights, among others. If and when the GDP is approved, it becomes part of the zoning map of the city.

Following approval of a GDP Amendment/Rezoning, the City requires the submittal and approval of a Specific Development Plan (SDP)/Use Permit before building permits may be issued and construction of any buildings or improvements can take place. Site development, building design, and architecture, as well as the details of any improvements, are considered as part of this approval. If the project is phased, the SDP can address the specific phase for which development approval is requested. An SDP/Use Permit in a PD district includes architectural review and requires approval by the Foster City Planning Commission.

Vintage Park Design Guidelines. The objectives of the Vintage Park Design Guidelines, updated in January 2021, are to (1) Maintain over the long-term the design quality and compatibility of all projects within the park; (2) Attract employers to Foster City by providing a high quality office/research/industrial park; (3) Enhance Foster City's image as a master planned, well-designed City; 4) Create a quality mixed-use development within a "park-like" setting that organizes the

[3] Foster City, City of. 2016a. *Foster City General Plan*. February.

mixed land uses, is economically feasible and shares uses of recreational amenities and parking; (5) Develop a unified hierarchy of site functions and elements including circulation systems, recreational amenities, public and private access and landscape forms and details; and (6) Design a development that is not only unique and supportive of a wide range of uses, but is also flexible enough to accommodate changing market demands and unforeseen desires.

All development projects within the Vintage Park area are subject to VPCA review and approval for conformance to the Vintage Park Design Guidelines. The Vintage Park Design Guidelines Land Use Map designates the project site as "restaurant."

San Mateo County Comprehensive Airport Land Use Plan. The project site is within the vicinity of two airports governed by the CLUP. The CLUP is a tool used by airport land use commissions to fulfill their purpose of promoting airport/land use compatibility. The purpose of the CLUP is to provide for the orderly growth of each public airport and surrounding areas and to safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The CLUP focuses on the following three major concerns (1) aircraft noise impact reduction, (2) the safety of persons on the ground and in aircraft flight, and (3) height restrictions and airspace protection.[4] The project site is within the airport influence areas of both San Francisco International and San Carlos airports. The following discusses the airport land use plan for each respective airport and applicable policies.

San Carlos Airport. The project site is 3.7 miles north of San Carlos Airport. Although the project site is outside of the mapped height restriction for this airport, it is within Area A of the Airport Influence Area (AIA).[5] This boundary defines the area within which a real estate disclosure notice must be provided to a buyer or lessee of property within the boundary, regarding the proximity of the nearby airport.

The project site is outside of the 65 decibel (db) Community Noise Equivalent Level (CNEL) aircraft contour for San Carlos Airport. This noise contour is used by the Airport Land Use Commission as the threshold for triggering review and evaluation of proposed land use policy actions in proximity to the airport with respect to noise impacts.

The Airport Land Use Commission recognizes certain types of land uses as hazards to air navigation in the vicinity of the San Carlos Airport. These land uses include any of the following:

- Any use that would direct a steady or flashing light toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in straight final approach toward a landing

[4] City/County Association of Governments of San Mateo County. 1996. San Mateo County Comprehensive Airport Land Use Plan, 1996. November 14.
City/County Association of Governments of San Mateo County. 2012, Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport. October.

[5] Ibid.

- Any use that would cause sunlight to be reflected toward an aircraft in an initial straight climb following takeoff or toward an aircraft engaged in straight final approach toward a landing
- Any use that would generate smoke or rising columns of air
- Any use that would attract large concentrations of birds within approach/climb-out areas
- Any use that would generate electrical interference that may interfere with aircraft communications or aircraft instrumentation

San Francisco International Airport. The project site is approximately 5.5 miles southeast of San Francisco International Airport (SFO), within both Area A and Area B of the SFO AIA. Area A encompasses all of San Mateo County, above which aircraft fly to and from SFO at least once per week at altitudes of 10,000 feet or less above mean sea level. Area A denotes the Real Estate Disclosure Area, within which the real estate disclosure requirements of State law apply. The law requires that the following statement must be included in the notice of intention to offer the property for sale:

> ***Notice of Airport in Vicinity.*** *This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.*

Area B is referred to as the Policy/Project Referral Area. The Airport Land Use Commission has statutory duties to review land use policy actions proposed in Area B. Such actions include General Plan updates and amendments, new Specific Plans, and changes to local zoning ordinances.

Additionally, although the project site is not within exclusion/restriction zones established by Part 77 airspace protection criteria, it is within the far southeast side of the 14 Code of Federal Regulations Part 77 Airport Imaginary Surfaces. The highest obstruction permitted within the project site associated with the approach surface is 499 feet.

4.1.2 Impacts and Mitigation Measures

The following section provides a discussion of impacts related to land use that could result from development of the proposed project. The section begins with the criteria of significance, establishing the thresholds to determine whether an impact is significant. The latter part of this section describes the land use impacts from the proposed project and recommends mitigation measures, if required.

As noted earlier, conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves; as such, the proposed project's consistency with applicable policies is discussed separately from the physical land use impacts associated with the proposed project. A policy inconsistency is considered to be a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect, and it is anticipated that the inconsistency would result in a significant adverse physical impact when evaluated against the established significance criteria. The proposed project's consistency with regional policies related to physical environmental topics (e.g., air quality, transportation, and noise) is analyzed and discussed in those topical sections of the EIR.

4.1.2.1 Significance Criteria

Implementation of the proposed project would have a significant impact on the environment related to land use and planning if it would:

1) Physically divide an established community; or

2) 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.

4.1.2.2 Project Impacts

The following describes the potential impacts related to land use that could result from implementation of the proposed project.

1) Physically divide an established community

The division of an established community would typically involve the construction of a barrier to neighborhood access (such as a new freeway segment) or the removal of a means of access (such as a bridge or roadway) that would impair mobility within an existing community, or between a community and outlying areas. For example, the construction of an Interstate highway through an existing community could constrain travel from one side of the community to another. Similarly, such construction could also impair travel to areas outside of the community.

The project site is in northeastern Foster City. Development surrounds the project site by on all four sides, including a commercial building within an associated parking lot to the north, Vintage Park Drive to the east, Chess Drive to the south, and a Home Depot warehouse and associated parking lot to the west. The proposed project would result in the redevelopment of the project site with a 120,164-square-foot, four-story office building that would include three levels of occupied space above a single level of ground-floor parking. The proposed project would not alter the through travel lanes on Vintage Park Drive or Chess Drive and would not impede access to the site or to adjacent uses. Access to the project site would be from the existing driveways along Vintage Park Drive and Chess Drive. Construction of the proposed project would not limit pedestrian, bicycle, or vehicular connections to the site. Therefore, implementation of the project would not result in the physical division of the adjacent surrounding areas or any other established community; this impact would be less than significant.

2) Cause a significant environmental impact due to a land use policy conflict

The following sections addresses the proposed project's compliance and compatibility with the applicable land use regulations of the General Plan, the Zoning Ordinance, and the CLUP.

Foster City General Plan. Potential conflicts with specific General Plan policies are discussed below and evaluated in detail in Table 4.1.A. Only policies adopted for the purpose of avoiding or mitigating an environmental effect and that relate directly to development of the project site are discussed. As indicated in the discussion below, the proposed project would generally be consistent with the General Plan. However, City decision-makers will evaluate the proposed project in the context of the General Plan, and as part of the development review process for the proposed project will consider potential policy conflicts. Consideration of the consistency with General Plan policies would take place independently of the environmental review process.

As shown on Table 4.1.A, the proposed project would be generally consistent with the land use and planning related policies outlined in the City's General Plan and no adverse physical environmental effects would result from any policy inconsistencies; therefore, the project would result in a less than significant impact related to consistency with General Plan policies adopted to mitigate adverse environmental impacts.

Foster City Zoning Ordinance. The project site is within the C-M/PD zoning district. As discussed above, new development with a C-M/PD zoning designation requires approval of a GDP Amendment/Rezoning. The PD combining district is intended to accommodate flexibility in application of zoning and design standards in exchange for high quality of design. These standards must be determined to be in accordance with "the objectives and spirit of the General Plan."

The Zoning Ordinance establishes that zoning, design, and development standards customized to individual project sites are to be established via the GDP/Rezoning described above. According to the Code, the GDP shall become a part of the zoning map of the city only when approved by the Planning Commission and the City Council. This process ensures that the rezoning process and changes to development standards at the project site are reviewed for conformance with the General Plan, including all land use policies aimed at targeting the environment and reducing environmental impacts.

The project sponsor has acted in compliance with the GDP process. On July 16, 2021, the project sponsor submitted applications for both GDP/Rezoning and Environmental Assessment related to the proposed project. Because the Vintage Park GDP currently in place specifies the subject lot as a restaurant site, an amendment to the GDP is required to allow the construction of an R&D/office building. As a result of regulations built into the C-M/PD zoning district (i.e., zoning and design standards that must conform with the intent of the General Plan), and the project sponsor's compliance with those regulations, the proposed rezoning and development standard changes do not represent significant land use policy impacts.

San Mateo Consolidated Airport Land Use Plan. The project site is outside the mapped height restriction areas for San Carlos Airport and SFO. Building heights are therefore not regulated by

the CLUP. Implementation of the COA detailed in Section 4.2, Aesthetics, would reduce potential impacts associated with increased light and glare. It is anticipated that construction materials would be similar to other buildings in the area and would not create conflict with design restrictions regarding light or direction of light towards aircraft, nor would any uses generate conflicts with the CLUP. The project site is also outside the 65 dB CNEL aircraft noise contour for SFO, which is used as the threshold for triggering review and evaluation of proposed land use policy actions near the airport with respect to noise impacts. Therefore, the proposed project is consistent with the CLUP.

As required, the real estate transfer documents distributed to prospective buyers or lessees at the project site would disclose that the property is within Area A of San Carlos Airport AIA and in Areas A and B of the SFO AIA, and that the site may be subject to aircraft overflight. In addition, the Airport Land Use Commission recommends that project sponsors submit Federal Aviation Administration (FAA) Form 7460-1, "Notice of Proposed Construction or Alteration" to the FAA Western-Pacific Regional Office in Southern California. FAA staff would use this form to determine if the proposed structure (up to about 80 feet in height) would affect the Class B airspace for SFO. However, as the highest obstruction permitted within the project site associated with the approach surface is 499 feet, the height of the proposed structures is significantly lower and would not impact the airspace.

4.1.2.3 Cumulative Impacts

The cumulative geographic context for land use, planning, and policy considerations for development consists of the project site in addition to the surrounding areas and uses abutting the project site.

The area surrounding the project site is largely developed with a mix of commercial, hotel and infrastructure uses, as well as the VPCA park. Development of the project would increase the intensity of office use development within the vicinity of the project site; however, other development projects are dispersed geographically throughout the city and would not combine with the project to result in cumulative impacts related to physical division of an established community.

In addition, all other cumulative development has been, or will be, subject to development guidance contained within the General Plan, prescribed by zoning and other applicable land use plans to avoid conflicting with plans adopted to avoid or mitigate environmental effects. Based on the information in this land use section and for the reasons summarized above, development of the project would not contribute to any significant adverse cumulative land use impacts when considered together with other cumulative development.

Table 4.1.A: Relationship of Proposed Project to Relevant Plans and Policies

Goal/Policy/ Program Number	Policy Summary	Project's Relationship to Policy
Foster City General Plan – Land Use and Circulation Element		
Goal LUC-B	Ensure high quality site planning and architectural design for all new development, renovation or remodeling and require property maintenance to maintain the long- term health, safety, appearance and welfare of the community.	*Consistent.* The proposed site design and circulation are analyzed in Section 4.3, Transportation, of this EIR. The site plan and architectural design have been, and will continue to be, the subject of detailed review by City staff and the Planning Commission to ensure a high-quality design, as described in Section 17.58 of the Foster City Municipal Code. The proposed project would be subject to design review at the time of Specific Development Plan/Use Permit approval.
Policy LUC-B-1	The City will establish a continuing program of civic beautification, tree planting, maintenance of homes and streets, and other measures which will promote an aesthetically desirable environment in order that neighborhood areas appear attractive both within and without. The City will use a design review process (called Architectural Review) whereby the design of most public and private development proposals, including those for individual residences, are subject to review and approval by the City. The primary objective of this review is to preserve the character of the neighborhood and community regarding appropriate and acceptable design for property improvements. Design review shall address, among other things, the following issues: (a) Preservation of the architectural character and scale of neighborhoods; (b) That the development is well designed in and of itself, and in relation to surrounding properties; (c) Preservation of waterfront views; (d) Minimizing impacts on the privacy and access to sunlight of adjacent properties; (e) Minimizing impacts due to excessive noise or undue glare; (f) Screening of unsightly uses including trash, loading docks/ areas, roof top equipment, and special ventilating systems; (g) Use of setbacks, open space and landscaping, (h) Exterior colors and materials.	*Consistent*. Refer to Policy LUC-A-2, above. As discussed in Section 4.2, Aesthetics, of this EIR, implementation of COA 8.2would reduce potential impacts associated with light and glare.
Goal LUC-C	Maintain land designated for a variety of residential, commercial, light industrial, recreational and public institutional purposes which: (1) provide a mix of housing types, densities and tenure; (2) ensure that a variety of commercial and industrial goods, services and employment opportunities are available in Foster City; (3) offer a range of recreational and public facilities to meet the needs Foster City's residents; and (4) maintain availability of commercial and retail services.	*Consistent.* The proposed project would consist of the redevelopment of the project site with a commercial office building. The proposed project would help further this goal by ensuring a variety of employment options near commercial service centers and residential uses.

Table 4.1.A: Relationship of Proposed Project to Relevant Plans and Policies

Goal/Policy/ Program Number	Policy Summary	Project's Relationship to Policy
Policy LUC-C-1	The Planned Development zoning designation may be applied to any designated multi-family, commercial or industrial site to allow a mixed-use project, subject to the following standards: …(c) advertising or identification signs are limited in size and number, and regulated by a project-specific sign program; (d) any residences located in the development can be protected by landscaping, open spaces, or other design features from the noise and traffic generated by commercial establishments; (e) off-street parking for residents, employees, and customers is provides in accordance with the Municipal Code; and (f) an adequate amount of open space for use by any residents of the project is provided. Such an open space area should be protected to provide a private area for residents.	*Partially Consistent.* The project site is within the Commercial Mix District/Planned Development (C-M/PD) zone. Project signage would be subject to design review prior to issuance of a Specific Development Plan/Use Permit, as described in Section 17.36 of the Foster City Municipal Code. As described in Section 4.3, Transportation, of this EIR, the proposed project would not provide adequate parking for employees, as required by the municipal code. The proposed project does not include a residential component.
Policy LUC-C-11	Permitted land uses on vacant sites should be compatible with the existing uses of land surrounding the vacant parcel, environmental characteristics of the site, the capacity of public facilities, streets and infrastructure serving the site, and the need to maintain a balance between residential, commercial, and public land uses	*Consistent.* The project site is currently developed with an existing vacant commercial building; the proposed project is largely compatible with the surrounding office buildings, mixed commercial uses, and parking lots that surround the project site. Additionally, the proposed project would include a landscape buffer between the proposed building and the VPCA park, and would not cast any new shadows on the park. The proposed project considers these existing land uses, as well as the environmental characteristics of the site. More information is provided in Section 4.2, Aesthetics; Section 4.7, Hazards and Hazardous Materials; Section 4.8, Public Services; and Section 4.9, Utilities and Service Systems, of this EIR; and Section 3.7, Geology and Soils; and Section 3.10, Hydrology and Water Quality, of the Initial Study (available in Appendix B).
Goal LUC-D	Ensure that commercial and industrial uses are safe and strictly control any industrial by-products, odors or emissions which may adversely affect the health or safety of Foster City residents or workers and the overall environment in Foster City, as provided in Chapter 17.68, General Performance Standards of the Foster City Municipal Code.	*Consistent.* The proposed project would be subject to design review prior to the Specific Development Plan/Use Permit approval, as described in Foster City Municipal Code Section 17.58. As described in Section 4.4, Air Quality, of this EIR, the proposed project would not result in any odors or emissions that would adversely affect the health or safety of Foster City residents or workers.
Policy LUC-D-9	The City will use a design review process for commercial and industrial projects to ensure that basic land uses, density, access, internal circulation, visual characteristics, noise, odors, fire hazards, vibrations, smoke, discharge of wastes and nighttime lighting do not negatively affect adjacent or nearby residential land uses.	*Consistent.* The proposed project would be subject to design review prior to the Specific Development Plan/Use Permit approval, as described in Foster City Municipal Code Section 17.58. More information is provided in Section 4.2, Aesthetics; Section 4.3, Transportation; Section 4.4, Air Quality; Section 4.6, Noise and Vibration; Section 4.7, Hazards and Hazardous Materials; and Section 4.8, Public Services, of this EIR.

Table 4.1.A: Relationship of Proposed Project to Relevant Plans and Policies

Goal/Policy/ Program Number	Policy Summary	Project's Relationship to Policy
Policy LUC-D-10	Industrial and commercial activities shall conform to the City's performance standards for noise, odor, vibration, glare, smoke, and waste. New or modified industrial or commercial developments shall be required to provide information on noise, odors, wastes, by-products, and the storage and handling of hazardous materials to the City prior to the issuance of a Certificate of Occupancy.	*Consistent*. This EIR addresses potential noise and vibration impacts in Section 4.6, Noise, odor and smoke in Section 4.4, Air Quality, glare in Section 4.2, Aesthetics, and waste in Sections 4.7, Hazards and Hazardous Materials and Section 4.9, Utilities and Service Systems. Impacts were determined to be less than significant with implementation of the City's standard COAs and recommended mitigation measures.
Policy LUC-H-1	Encourage sustainability efforts of residents and business owners. Foster the use of technology to improve sustainability, e.g., irrigation controls coordinated with the weather, sustainable remodeling guidelines for homes, use of recycled water for landscaping irrigation, infrastructure for electric vehicles, etc.	*Consistent.* This EIR analyzes the proposed project's sustainability features in Section 4.5, Greenhouse Gas Emissions. The proposed project was found to include sufficient sustainability measures and be consistent with the City's Climate Action Plan.
Policy LUC-K-2	Ensure that all new buildings, whether free-standing or multi-building developments and all expansions of existing buildings demonstrate consistency with the infrastructure of the Estero Municipal Improvement District and the City, including sewer, storm sewer, parks/recreation facilities, and street system capacity.	*Consistent*. This EIR addresses potential impacts related to the need for new infrastructure, or expansion of existing infrastructure, in Section 4.9, Utilities and Service Systems. Impacts were determined to be less than significant, and existing infrastructure was found to be adequate.
Foster City General Plan – Parks and Open Space Element		
Policy PC-18	Consider the impact of new development on sunlight to existing public open spaces.	*Consistent.* This EIR addresses potential shadow impacts in Section 4.2, Aesthetics. Impacts were determined to be less than significant and no mitigation measures are required.
Program PC-n	Review all new development or improvement proposals through the City of Foster City's architectural review process for: (1) Impacts on access to sunlight on public areas; (2) provision of street furniture and attractive landscaping in public open spaces; and (3) impacts on waterfront views.	*Consistent.* Refer to Policy PC-18. Additionally, the proposed project would provide landscaping throughout the project site that would complement the existing landscaping along Vintage Park Drive and the VPCA park adjacent to the site. The project site does not include any waterfront views.
Foster City General Plan – Noise Element		
Goal N-A	Assure the appropriateness of new development with the noise environment of Foster City and establish mitigation measures for any changes in land use as are reasonably necessary to assure compatibility with the surrounding area.	*Consistent.* This EIR addresses potential noise impacts resulting from construction and operation of the proposed project. Impacts were determined to be less than significant with implementation of the City's standards COAs and recommended mitigation measures.
Policy N-13	The City will apply the quantitative noise ordinance standards (Chapter 17.68, General Performance Standards) throughout the City.	*Consistent*. Refer to Goal N-A.

Table 4.1.A: Relationship of Proposed Project to Relevant Plans and Policies

Goal/Policy/ Program Number	Policy Summary	Project's Relationship to Policy
Foster City General Plan – Local Hazard Mitigation Plan & Safety Element		
Program S-A-3-b	The City will study the adequacy of water storage and/or supply facilities.	*Consistent*. This EIR address potential water supply impacts in Section 4.9, Utilities and Service Systems. Impacts were determined to be less than significant.
Program S-B-1-d	The City will provide adequate personnel, training, and equipment to support the provision of police services.	*Consistent*. This EIR addresses potential impacts related to the provision of police services in Section 4.8, Public Services. Impacts were determined to be less than significant.
Program S-C-4-a	The City will review proposals for new and modified buildings to ensure that fire safety provisions are included as required by the most current uniform codes and local regulations.	*Consistent.* This EIR addresses potential impacts related to emergency access in Section 4.3, Transportation, and potential impacts related to the provision of fire services in Section 4.8, Public Services. Impacts were determined to be less than significant.
Foster City General Plan – Conservation Element		
Goal C-A	Protect and conserve wildlife habitat, energy resources, land resources, air quality, and the quality and quantity of water resources.	*Consistent.* The Initial Study prepared for the proposed project addresses potential impacts related to wildlife habitat and energy resources, which were determined to be less than significant with implementation of standard mitigation measures and COAs. This EIR addresses air quality impacts in Section 4.4, Air Quality, and impacts related to water resources in Section 4.9, Utilities and Service Systems.
Policy C-1	Conserve water resources in existing and new development.	*Consistent.* Refer to Program S-A-3-b.
Policy C-3	Reduce the impact of development on local air quality.	*Consistent.* This EIR addresses potential air quality impacts in Section 4.4, Air Quality. Impacts were determined to be less than significant with implementation of the City's standard COAs.
Policy C-4	Promote energy conservation in new and existing development.	*Consistent.* Refer to Policy LUC-H-1.
Policy C-5	Reduce the generation of solid waste through recycling and other methods.	*Consistent.* This EIR addresses potential impacts related to solid waste in Section 4.9, Utilities and Service Systems. Impacts were determined to be less than significant.

Source: Foster City General Plan, February 2016. Compiled by LSA, 2021.
City = City of Foster City
COA = Condition of Approval
EIR = Environmental Impact Report
VPCA = Vintage Park Community Association

4.2 AESTHETICS

This section assesses the effects of the proposed project on visual resources in the vicinity of the project site. The proposed project's consistency with Foster City General Plan policies relevant to aesthetics, shade, and shadow are considered, as well as compliance with relevant requirements and standards set forth in the Foster City Zoning Code. This analysis also considers the visual quality of the project site and its surroundings, in addition to public views of the project site. It identifies standard Conditions of Approval (COAs) and/or mitigation measures to reduce or avoid potentially significant impacts are identified, where appropriate.

4.2.1 Setting

This section describes the existing visual character of the project site, the areas immediately surrounding the project site, and the area in the general vicinity of the project site.

4.2.1.1 Local Context

As described in Section 4.1, Land Use and Planning, Foster City is a "Planned Community" constructed and implemented by an organized program of development. The 2.2-acre project site is within Vintage Park, a 132-acre, mixed-use development integrated into a planned framework of open space systems that collectively create a park-like setting. All buildings within Vintage Park are between 1 to 10 stories in height, with the tallest buildings situated within the Gilead campus. Circulation in the surrounding area is provided by two- to four-lane roadways and boulevards. The boulevards serving the project vicinity do not provide on-street parking; parking is instead provided in surface lots and, in the case of the Gilead campus, low-rise parking structures. The landscaped areas and trees that line the edges and medians of the boulevards in the area, as well as the Gilead campus open space, are the defining visual features of Vintage Park.

4.2.1.2 Existing Visual Character of the Project Site

As described in Section 3, Project Description, the project site is generally level and developed with a vacant restaurant building and surface parking lot. The approximately 10,120-square-foot building is a single story in height and was constructed in approximately 1990. Landscaping on the project site consists of the approximately 35-foot-wide Estero Municipal Improvement District (EMID) landscape and sanitary sewer easement that includes landscaping and sidewalks and approximately 55 mature trees. When viewed from the Vintage Park Drive and Chess Drive intersection, the existing building appears to be situated in a park due to the presence of the Vintage Park Community Association (VPCA) park immediately to the south, the landscaped EMID easement to the east, and the mature street trees along both roadways.

4.2.1.3 Visual Character of the Surrounding Area

The visual character of the surrounding area is of the planned built environment that defines this area of Foster City. The project area is characterized by relatively dense urban development with planned open spaces and landscaping and little undeveloped land in the vicinity. San Francisco Bay is less than 1 mile north of the project site. The prevailing level topography of the area, existing buildings, and mature vegetation between properties prevent expansive vistas or perspectives, including views of the Bay. There are no scenic vistas or natural landscapes visible from the project

site or from neighboring properties in the project vicinity. There are also no State-designated scenic highways or potentially eligible scenic highways near the project site.[1]

Buildings near the project site range from 1 to 10 stories, although a 4-lane boulevard, large surface parking lots, and landscaped areas provide separation between adjacent buildings. The nearby buildings were built in the latter half of the 20th century and beginning of the 21st century and display architecture typical of office and retail buildings of those eras. The following describes the visual character project site surroundings. Figures 3-6 and 3-7, in Chapter 3, Project Description, include photos of surrounding land uses; refer to Figure 3-4 for photo viewpoint locations.

- **North of the Project Site.** Directly north of the project site is a commercial office building and its associated surface parking lot (Photo 3; Figure 3-6). The office building is 2 stories in height and clad in gray stucco with windows that generally extend the length of the building on both floors. Further north is the Gilead campus, which is made up of buildings of varying heights, up to 10 stories, with siding that consists of stucco, metal cladding, and large floor-to-ceiling windows.

- **East of the Project Site.** The commercial office buildings east of the project site across Vintage Park Drive are similar to those north of the site (Photo 4; Figure 3-6). While these buildings are generally smaller (i.e., one to two stories in height), they use similar gray stucco siding and windows that extend nearly the length of the building. A six-story hotel, currently occupied by the Crowne Plaza Hotel, is visible in the distance to the east. The hotel has a typical design with beige stucco and individual windows for each room.

- **South of the Project Site.** The small VPCA park south of the site and within the same block is characterized by landscaped areas including trees and shrubs, a small lawn, and small plaza with benches (Photo 5; Figure 3-7). The retail building across Chess Drive south of the project site resembles a typical retail building designed and built in the early 21st century. A mix of beige and gray stucco combined with metal cladding and pedestrian-height ground floor windows makes up the siding of the building. Metal awnings, setback portions of the building, and changes in color serve to break up the massing and provide visual interest.

- **West of the Project Site.** Directly west of the project site is a home improvement warehouse/ retail store (Home Depot) and its associated surface parking lot (Photo 6; Figure 3-7). The building is a single-story, double-height, warehouse-style building clad in stucco of various colors, including beige and red. An outdoor nursery contained by a black metal fence with brick columns in also visible from the project site.

4.2.1.4 Views from the Project Site

Due to the presence of mature trees, landscaping, and buildings that line the boundary of the project site and the prevailing flatness of the project site and surrounding area, views from within the project site into the surrounding area are limited to adjacent buildings and related features.

[1] California Department of Transportation. 2019. California State Scenic Highway System Map. Available online at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed August 2021).

- **Views to the North.** Views to the north of the project site are restricted by mature vegetation within and on the northern border of the project site and the existing buildings to the north. Portions of mid-rise office buildings within the Gilead campus are visible to the north. These buildings vary in design, from buildings made up of mostly glass siding to those with a mix of stucco and windows.

- **Views to the East.** Views to the east are largely restricted by existing vegetation both on the project site and on the opposite side of Vintage Park Drive. The office buildings east of the project site are partially visible through this vegetation, as well as a small portion of the Crowne Plaza Hotel.

- **Views to the South.** Views to the south of the project site are largely restricted by the existing mature vegetation within the VPCA park. The retail buildings south of Chess Drive are visible from the project site as well as Vintage Park Drive, which becomes elevated south of the intersection with Chess Drive to cross over State Route 92 (SR-92). Partial views of the high-rise buildings along Metro Center Boulevard are also available from the project site.

- **Views to the West.** The Home Depot warehouse and its associated surface parking lot and commercial and residential uses along Chess Drive Bridgepoint Circle are visible with some screening from existing vegetation on the project site. Overhead power lines and a support within the median along Chess Drive are also visible to the west.

4.2.1.5 Views of the Project Site

The flat, tree-lined project site is only visible from a few surrounding vantage points. From public viewpoints along Vintage Park Drive and Chess Drive, notable features such as the existing building and mature vegetation are visible to passing motorists and pedestrians. As described above, Vintage Park Drive south of the project site rises in elevation to cross over SR-92. Therefore, motorists traveling northbound between Metro Center Boulevard and Chess Drive have partial views of the project site. Views of the project site are available from surrounding buildings as well, including office buildings to the east, the upper floors of the nearby hotels to the south and east, and the taller buildings within the Gilead campus. However, the majority of these views would be obstructed by existing development and vegetation immediately surrounding the project site.

4.2.1.6 Existing Shading and Shadows

As shown in the shadow diagrams provided later in this section (Figures 4.2-1 through 4.2-3), existing shadows cast by the existing single-story building on the site are limited to the project site during all times of the year. Surrounding development casts shadows primarily onto adjacent surface parking lots, roadways, and immediately adjacent buildings. Buildings, however, are generally separated by intervening surface parking lots and roadways such that most buildings in the vicinity remain free from shadows from adjacent structures during any point of the year, even during the Winter Solstice (generally around December 21), when the days are shorter and longer shadows are cast throughout the day.

4.2.1.7 Regulatory Framework

The following discusses applicable standards and policies related to aesthetics and shadow, including those from the City of Foster City's (City) General Plan, Zoning Ordinance, Vintage Park Design Guidelines, and Foster City COAs.

Foster City General Plan. The Foster City General Plan addresses aesthetics and shadow in the Land Use and Circulation Element. The following policies are applicable to the proposed project.

- **Policy LUC-A-2: Preservation of Views.** The City will use the design review process to balance the ability of the property owner to improve/expand their property with the desire of the owners of neighboring Bayfront or waterfront houses to continue to enjoy views of the San Francisco Bay or the Foster City Lagoon.

- **Policy LUC-B-1: City Approach to Design (Architectural) Review.** The City will establish a continuing program of civic beautification, tree planting, maintenance of homes and streets, and other measures which will promote an aesthetically desirable environment in order that neighborhood areas appear attractive both within and without. The City will use a design review process (called Architectural Review) whereby the design of most public and private development proposals, including those for individual residences, are subject to review and approval by the City. The primary objective of this review is to preserve the character of the neighborhood and community regarding appropriate and acceptable design for property improvements. Design review shall address, among other things, the following issues: (a) preservation of the architectural character and scale of neighborhoods; (b) that the development is well designed in and of itself, and in relation to surrounding properties; (c) preservation of waterfront views; (d) minimizing impacts on the privacy and access to sunlight of adjacent properties; (e) minimizing impacts due to excessive noise or undue glare; (f) screening of unsightly uses including trash, loading docks/areas, roof top equipment, and special ventilating systems; (g) use of setbacks, open space, and landscaping; and (h) exterior colors and materials.

- **Policy LUC-D-9: Design Review of Commercial and Industrial Projects.** The City will use a design review process for commercial and industrial projects to ensure that basic land uses, density, access, internal circulation, visual characteristics, noise, odors, fire hazards, vibrations, smoke, discharge of wastes and nighttime lighting do not negatively affect adjacent or nearby residential land uses.

- **Policy LUC-D-10: Health and Safety Performance Standards for Industrial and Commercial Activities.** Industrial and commercial activities shall conform to the City's performance standards for noise, odor, vibration, glare, smoke, and waste. New or modified industrial or commercial developments shall be required to provide information on noise, odors, wastes, by-products, and the storage and handling of hazardous materials to the City prior to the issuance of a Certificate of Occupancy.

Foster City Municipal Code. The Foster City Municipal Code contains the following regulations related to aesthetics and visual impacts.

- **Chapter 17.36 Planned Development (PD) Combining District.** The project site is zoned C-M/PD, meaning it is subject to the PD combining district regulations described in Chapter 17.36 of the Foster City Municipal Code. Although the PD combining district regulations permit project-specific design guidelines and standards to be applied as part of the approval process, Chapter 17.36.070 also describes general development criteria for projects within a PD combining district zone. Among other criteria, these guidelines include the undergrounding of utility lines where feasible, the designing of structures in harmony with existing topography and vegetation, and the minimizing of detraction of scenic and visual quality of the City.

- **Chapter 17.58.010.B Architectural Control and Supervision.** Projects involving construction of new buildings are subject to architectural review by the Planning Commission. Chapter 17.58 of the Foster City Municipal Code establishes procedures and criteria for review of proposed structures, buildings, and improvements to real property and modifications to such that are necessary in order to meet the following objectives:

    1. To preserve the architectural character and scale of the neighborhoods and community;

    2. To assure that development is well designed, in and of itself and in relation to surrounding properties, including that the height, façade length, roof form, colors, materials, and architectural details of a proposed building should be compatible with the height, façade length, roof form, colors, materials, and architectural details of buildings in the immediate vicinity;

    3. To prevent the erection of structures, additions, or alterations or other property improvements which significantly impact the privacy of adjacent properties; cause a significant diminution of sunlight to the interior of an adjacent building or to the exterior of adjacent properties; cause undue glare or noise impacts to adjacent properties; and significantly block or limit existing views from the interior and exterior of adjacent properties, and that individual rights are weighed against the needs and requirements of the community;

    4. To assure that developments enhance their sites and are harmonious with the highest standards of improvements in the surrounding area;

    5. To promote and protect the health, safety and general welfare of the City;

    6. To preserve views of and from the lagoons and waterways which provide a visual connecting link for adjacent lots and developments;

    7. To enhance the residential and business property values within the City and in neighborhoods surrounding new or modified development;

8. To assure that each new development is designed to best comply with the intent and purpose of the zone in which the property is located and with the general plan of the City;

9. To encourage the maintenance, repair, replacement or improvement of surrounding properties.

- **Chapter 17.68.080. General Performance Standards: Glare.** No direct or reflected glare, whether produced by floodlight, high-temperature processes such as combustion or welding, or other processes, so as to be visible from any boundary line of property on which the same is produced, shall be permitted. Sky-reflected glare from buildings or portions thereof shall be so controlled by such reasonable means as are practical to the end that the sky-reflected glare will not inconvenience or annoy persons or interfere with the use and enjoyment of property in and about the area where it occurs.

Vintage Park Design Guidelines. The objectives of the Vintage Park Design Guidelines, updated in January 2021, are to (1) Maintain over the long term the design quality and compatibility of all projects within the park; (2) Attract employers to Foster City by providing a high quality office/research/industrial park; (3) Enhance Foster City's image as a master planned, well-designed city; (4) Create a quality mixed-use development within a "park-like" setting that organizes the mixed land uses, is economically feasible and shares uses of recreational amenities and parking; (5) Develop a unified hierarchy of site functions and elements including circulation systems, recreational amenities, public and private access and landscape forms and details; and (6) Design a development that is not only unique and supportive of a wide range of uses, but is also flexible enough to accommodate changing market demands and unforeseen desires.

Section 5.2, Building Height, of the Vintage Park Design Guidelines requires that development projects consider the shadow impacts of taller buildings on adjacent buildings.

Foster City Standard Conditions of Approval. The City has adopted COAs for development projects. The following COA related to aesthetics would apply to the proposed project.

- **COA 8.2:** An exterior lighting plan including fixture and standard design, coverage and intensity, to be reviewed and approved by the Community Development Department and the Police Department. In its review of the lighting plan, the City shall ensure that any outdoor night lighting proposed for the project is downward-facing, and shielded so as to minimize nighttime glare and lessen impacts to neighboring properties. The City shall also ensure that all development plans for the proposed project conform to the performance standards provided under Section 17.68.080 of the Foster City Municipal Code.

4.2.2 Impacts and Mitigation Measures

This section provides an assessment of the potential impacts related to aesthetics that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.2.2.1 Significance Criteria

Implementation of the proposed project would have a significant effect on visual resources if it would:

1) Have a substantial adverse effect on a scenic vista;

2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;

3) Conflict with applicable zoning and other regulations governing scenic quality;

4) Cast a shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space; or

5) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The Foster City General Plan contains policies that seek to preserve access to sunlight on public spaces, as described in Section 4.2.1.1, above. The significance criteria related to shadows above reflects the intent of these policies. This criterion is based on similar thresholds used for previous projects in the city. The remaining thresholds of significance are based on Appendix G of the *State CEQA Guidelines*. Applicable thresholds of local significance from the City's Environmental Review Guidelines[2] are discussed in this section as well.

4.2.2.2 Project Impacts

The following describes the potential impacts related to aesthetics that could result from implementation of the proposed project.

1) Have a substantial adverse effect on a scenic vista

A scenic vista is generally defined as a publicly accessible vantage point providing expansive or panoramic views. The city is generally flat with limited scenic vistas from public vantage points. Existing topography, combined with infrastructure (e.g., roadways), mature vegetation, and existing development in the vicinity of the project site limit visual access from all but a few public viewpoints. Scenic vistas within the city generally consist of views of the San Bruno Hills to the west and views of the various water bodies surrounding and within the city, including Belmont Slough, Seal Slough, the Central Lake, and San Francisco Bay. The Foster City Environmental Review Guidelines specify that projects that eliminate or significantly alter public views of San Francisco Bay shall be considered to have a potentially significant impact on the environment.

As described in Section 4.2.1.4, above, views from the project and the surrounding area are generally obstructed by existing development and mature vegetation. The project site is near Seal

[2] Foster City, City of/Estero Municipal Improvement District. 2007. *Environmental Review Guidelines.* October 1.

Slough; however, scenic views of this water body and others in the city are generally only available from streets or sites directly adjacent to these features. Similarly, views of the San Bruno Hills from public viewpoints near the project site are blocked by existing development and mature vegetation. Therefore, the proposed project would not block or substantially alter any existing scenic vistas on or adjacent to the project site, and this impact would be less than significant.

2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway

As described in Section 4.2.1.3, there are no State scenic highways near the project site. A segment of SR-92 is identified as an eligible State scenic highway; however, this section consists of the portion between State Route 1 near Half Moon Bay to Interstate 280, which is more than 5 miles away from the project. Therefore, the proposed project would not result in the damage of trees, rock outcroppings, or historic buildings within view of a State scenic highway, and there would be no impact.

3) Conflict with applicable zoning and other regulations governing scenic quality

Development of the proposed project would change the visual character of the project site and its surroundings. However, these changes would not be incompatible with the character of the surrounding area, nor would the visual quality of the project site be degraded, as further discussed below. The project site currently consists of a vacant, one-story building that is underutilized and minimally maintained.

The proposed project would result in the demolition of the existing building on the project site and the construction of a 120,164-square-foot, 4-story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) office building. The proposed project would retain the existing vegetation along Vintage Park Drive and replace existing trees on the project site, both of which would screen the proposed building.

As noted above, the tallest portion of the building would be approximately 80 feet tall, although the roofline would only reach 68 feet. Although the proposed building would be taller than the buildings immediately adjacent to it, the four-story building would not be out of scale with nearby developments within Vintage Park, particularly the buildings within the Gilead campus and hotels to the south and east, which are up to 10 stories in height.

As discussed in Section 4.1, Land Use and Planning, the project site is within the C-M/PD zoning district. New development with a C-M/PD zoning designation requires approval of a General Development Plan (GDP) Amendment/Rezoning. Applications for development in a PD district must include a GDP/Rezoning that establishes design standards, development parameters, and traditional zoning standards such as site layout, setbacks, lot sizes, and building heights, among others. The proposed project would be subject to the City's Design Review process, which ensures that proposed projects meet all guidelines, standards, and objectives related to building design and aesthetics, prior to final approval. Also evaluated in this process is a proposed project design's compatibility with or appropriateness for its surroundings. Design review also includes assessment of the compatibility of the development project with surrounding properties in terms of colors,

materials, architectural details, façade lengths, and roof forms. Conformance with this process and review of the requested GDP Amendment/Rezoning would ensure that the project would not substantially degrade the existing visual character or quality of the site or surroundings and would be consistent with community standards. Therefore, the proposed project would have a less-than-significant impact related to visual character.

4) Cast a shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space

Development of the proposed project would result in the construction of a four-story office building that would be up to 68 feet at the roofline and 80 feet in height to the top of the mechanical penthouse. The closest public or quasi-public space to the project site is the VPCA park abutting the southern boundary of the project site. The proposed building would shift the daily pattern of shade and shadow cast from the project site, as discussed below and depicted in Figures 4.2-1 through 4.2-3.

Figures 4.2-1 through 4.2-3 show the shadows that the proposed building would cast by at various points throughout the year, including the summer and winter solstices (approximately June 21 and December 21, respectively) and the spring/fall equinoxes (represented on March 21). As shown, new shadows cast by the project would be limited towards the north, east, and west of the site during all points of the year, during all times of the day. The proposed project would not result in any new shade or shadow cast to the south on the adjacent VPCA park. The shadows that would be cast would primarily fall on the surface parking lots for the proposed building and the adjacent Home Depot warehouse. On December 21, the date that usually has the longest shadows of the year, shadows would reach a portion of the Home Depot building and surface parking lot for the office building north of the project site. However, shadows would shift throughout the day, and no existing building or other use would be shaded for a substantial length of time. Therefore, no sensitive uses such as residences, parks, or schools would be affected by shade and shadows cast by the proposed project, and this impact would be less than significant.

5) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

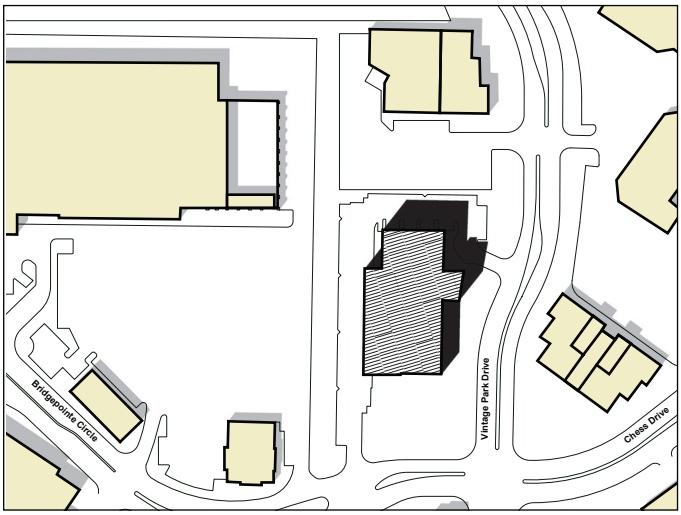
The proposed project would create additional sources of glare in the vicinity of the project site. The project site currently contains reflective surfaces on the existing building, but because it is currently vacant, it does not contain any light-emitting sources. The proposed project would result in the construction of a new building that would be up to 68 feet at the roofline and a maximum of 80 feet in height including rooftop appurtenances. As discussed above, the proposed building would be at least partially visible from various points in the city. The public (i.e., pedestrians and motorists) could experience some degree of glare due to sunlight reflecting off the façade of the building. In the evening hours, the lights used to illuminate the building would add new sources of light to the vicinity of the project site and to the nighttime skyline. However, implementation of COA 8.2 would require an exterior Lighting Plan and building materials to be reviewed and approved by the City to ensure that light and glare impacts would be reduced. Therefore, the proposed project would result in less than significant impacts related to light and glare.

4.2.2.3 Cumulative Impacts

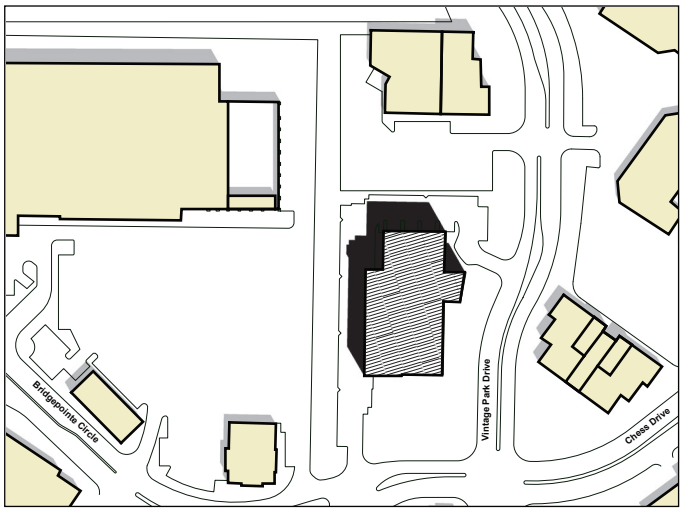
The geographic area considered for the aesthetic cumulative analysis includes the area near the project site, including the parcels with Vintage Park. This area was defined because it includes the project site and the immediately surrounding neighborhood. There are no significant development projects included in this area. The proposed project would not substantially alter existing views of scenic vistas within the vicinity of the project site, including views of the distant hills or mountain ranges. Therefore, the project would not make a considerable contribution to cumulative impacts related to the obstruction of scenic vistas in Foster City.

The project is consistent with the City's General Plan Land Use Designation for the site, and together with the majority of past, present, existing, pending, and reasonably foreseeable future development projects, is subject to the City's design review process. The objective of the City's design review process is to preserve the character of the neighborhood and community. The design review process is intended to assure the proposed development is well designed, in and of itself, and in relation to surrounding properties, and that individual rights are weighed against the needs and requirements of the community. The project site is also surrounded by developed, urban properties of similar land use and development patterns; therefore, the construction of the project would not adversely alter the visual character of the area.

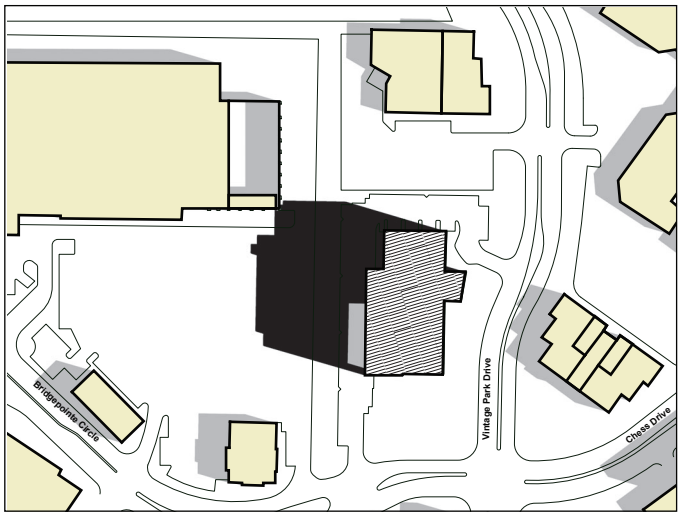
Increased shadows cast by the proposed project and cumulative developments would be limited to the immediate surroundings of each development site, and no cumulative projects are close enough to the site to cast new shadows that would combine with the proposed project's new shadows and affect nearby parks or open spaces. Although the proposed project and future projects in the vicinity of the site could increase light and glare in the area, the City's General Plan includes goals and policies related to design review, which govern the use of reflective materials and outdoor lighting. With implementation of COA 8.2, the project would not make a considerable contribution to cumulative light and glare impacts. Therefore, the proposed project would not combine with, or add to, any potential adverse aesthetic impacts that may be associated with other cumulative development.



March 21, 3:00 pm PDT



March 21, 12:00 noon PDT



March 21, 9:00 am PDT

LSA

Project

Existing Shadow

New Project Shadow

Note: Shadows on September 21 (fall equinox) are virtually identical to shadows at the same time on March 21 (spring equinox).

N

0 100 200

FEET

SOURCE: Environmental Vision, 7/9/2021

FIGURE 4.2-1

388 Vintage Park Drive Project EIR

Proposed Project Shadow Patterns - March 21

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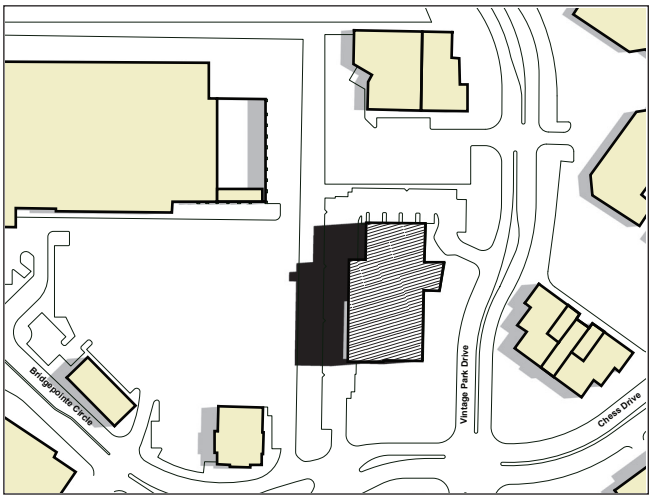
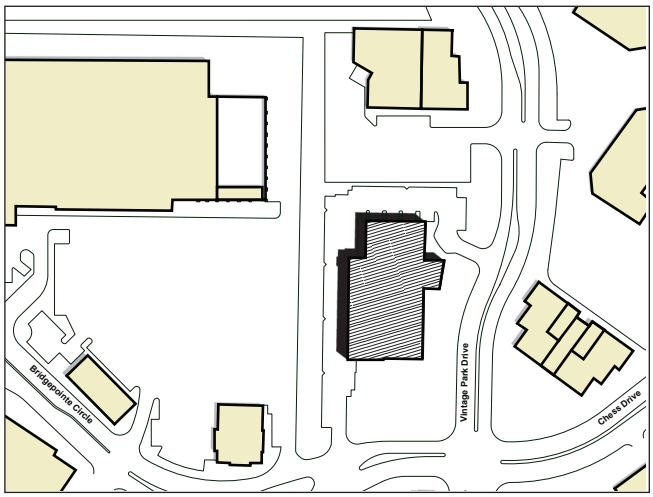
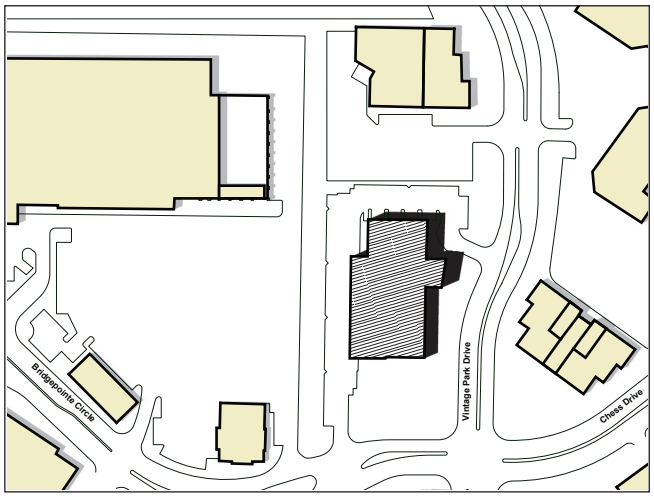


June 21, 9:00 am PDT



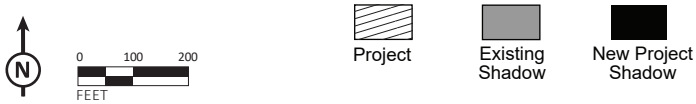
June 21, 12:00 noon PDT



June 21, 3:00 pm PDT

LSA

FIGURE 4.2-2

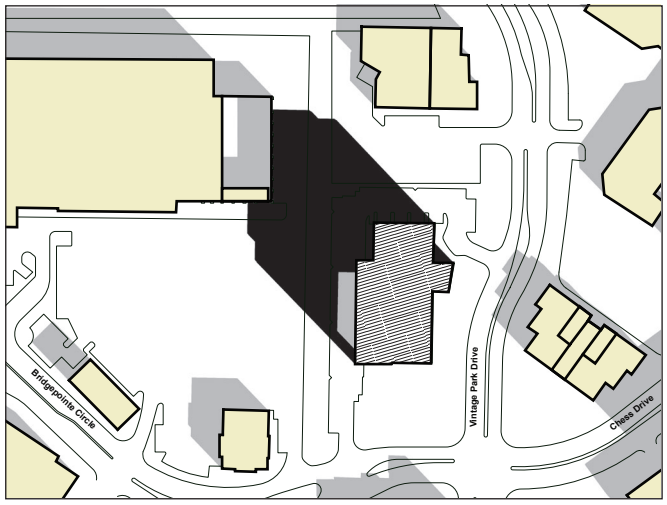


388 Vintage Park Drive Project EIR

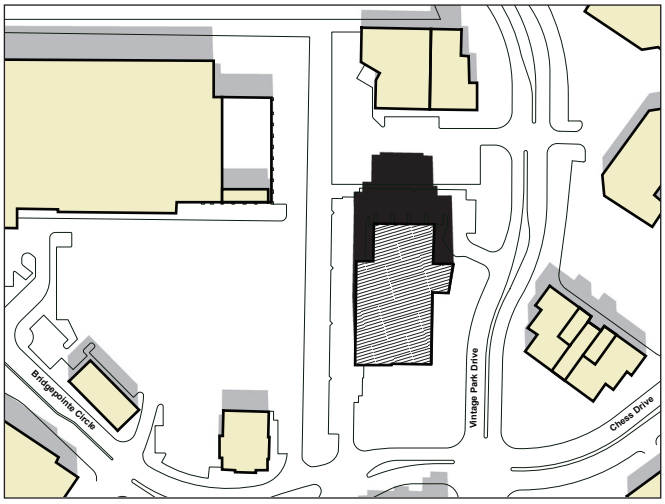
Proposed Project Shadow Patterns - June 21

SOURCE: Environmental Vision, 7/9/2021

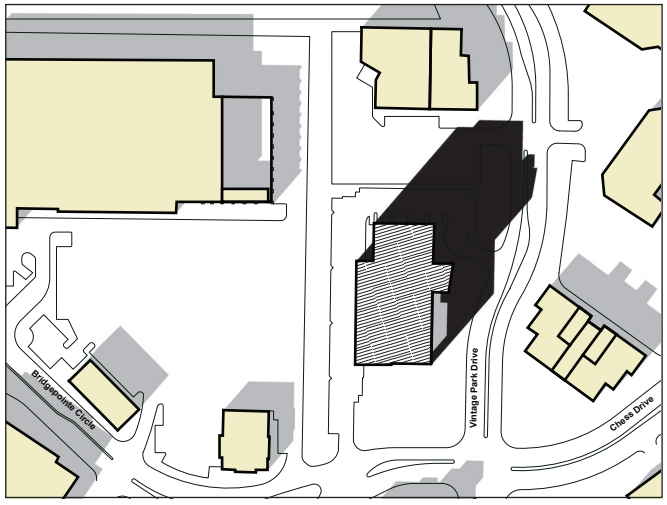
P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 4.2-2.ai (8/16/2021)



December 21, 9:00 am PDT



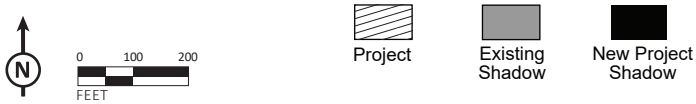
December 21, 12:00 noon PDT



December 21, 3:00 pm PDT

LSA

FIGURE 4.2-3



388 Vintage Park Drive Project EIR

Proposed Project Shadow Patterns - December 21

SOURCE: Environmental Vision, 7/9/2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 4.2-3.ai (8/16/2021)

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4.3 TRANSPORTATION

This section discusses the results of the Transportation Impact Assessment (TIA)[1] conducted for the proposed project and included in Appendix C. Specifically, this section describes existing and future transportation and circulation within the study area, describes the analysis methodology and regulatory framework, identifies potential transportation-related impacts of the proposed project, and identifies the applicable standard Conditions of Approval and recommended mitigation measures for identified significant impacts. Topics evaluated in the analysis include an assessment of vehicle miles traveled (VMT), site access and circulation, driveway site distance and vehicle queuing, and hazards and emergency vehicle access. Additionally, for informational purposes, this section includes an assessment of vehicle level of service (LOS) for consistency with General Plan Policy LUC-F-1, as well as an assessment of vehicle parking and loading.

Up until July 1, 2020, roadway congestion or LOS was used as the primary metric for planning and environmental review purposes in Foster City. However, Senate Bill (SB) 743 required the Governor's Office of Planning and Research (OPR) to establish a new metric for identifying and mitigating transportation impacts under the California Environmental Quality Act (CEQA) in an effort to meet the State's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. CEQA Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts pursuant to CEQA Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA. OPR identified VMT as the required CEQA transportation metric for determining potentially significant environmental impacts.[2] In December 2018, the California Natural Resources Agency certified and adopted the *State CEQA Guidelines* update package, including the section implementing SB 743 (*State CEQA Guidelines* Section 15064.3). OPR developed the Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.[3] As of July 1, 2020, VMT (not LOS) is the only legally acceptable threshold for transportation-related environmental impacts pursuant to CEQA.

In accordance with SB 743, for purposes of determining potentially significant environmental impacts related to transportation, this EIR will focus only on VMT as the threshold of significance. However, because LOS is still used for local planning purposes, that information is summarized in the Non-CEQA Analysis at the end of this section and in the TIA included as Appendix C.

The information in this chapter is based on the TIA and the identification of mitigation, if any, provided in the TIA. The analyses were conducted in accordance with the current standards and methodologies required by law and set forth by the City of Foster City (City) and the City/County Association of Governments of San Mateo County (C/CAG). The TIA includes the level of service

1 Fehr & Peers. 2021. 388 Vintage Park Drive Transportation Impact Assessment. October 8.

2 Governor's Office of Planning and Research (OPR). 2016. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013)*. January 20.

3 OPR. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA.* December 18. Website: opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed February 7, 2019).

analysis summary, turning movement volumes, intersection lane configurations, and intersection LOS.

4.3.1 Setting

This section describes the existing transportation conditions, including the roadway network, bicycle facilities, pedestrian facilities, and transit service within the study area. The applicable regulatory framework is also described.

4.3.1.1 Existing Transportation and Circulation System

Roadway Network. Regional highways, arterials, major collectors, collectors, and local streets run throughout the project area. Regional access to the project site is provided via State Route 92 (SR-92) and United States Route 101 (US-101). Descriptions of roadways in the project area are provided below using roadway classifications defined in the Foster City General Plan Land Use and Circulation Element followed by the Federal Highway Administration category.[4]

- **SR-92** is a State highway that runs in an east-west direction from Half Moon Bay, near the coast, to Hayward on the east side of San Francisco Bay via the San Mateo Bridge. SR-92 has partial interchanges (hook ramps) with Chess Drive/Foster City Boulevard/Metro Center Boulevard and Edgewater Boulevard/Mariners Island Boulevard/Fashion Island Boulevard. It generally has three travel lanes in each direction east of US-101 and two travel lanes in each direction west of US-101, with auxiliary lanes between interchanges. In 2019, average daily volumes on SR-92 through the study area ranged from 147,000 vehicles between US-101 and Mariners Island Boulevard to 98,000 vehicles at the San Mateo Bridge.

- **US-101** is a freeway that provides regional north-south access along the San Francisco Peninsula. In the vicinity of Foster City, US-101 typically has four travel lanes in each direction with an auxiliary lane between interchanges. Although US-101 does not run directly through Foster City, it provides the primary north-south regional access to the study area via interchanges at SR-92, East Hillsdale Boulevard, and East Third Avenue in San Mateo. In 2019, average daily traffic volumes on US-101 through Foster City ranged from 233,000 vehicles at East Hillsdale Avenue to 263,000 vehicles north of SR-92.

- **Vintage Park Drive** is four-lane, north-south arterial that extends from Foster City Boulevard to Metro Center Boulevard. It fronts the project site to the east and provides driveway access to the project site. The speed limit on Vintage Park Drive is 30 miles per hour.

- **Chess Drive** is an arterial that extends eastward from Bridgepointe Parkway past Foster City Boulevard and then curves around to the north and west to intersect with Foster City Boulevard at Vintage Park Drive. Access to westbound SR-92 is provided via hook ramps just west of Foster City Boulevard. Chess Drive is four lanes wide west of Foster City Boulevard and two lanes wide to the east. On-street parking is allowed along Chess Drive to the east of Hatch Drive. It fronts the project site to the south and provides driveway access to the project site. The speed limit is

[4] Foster City, City of. 2016. *Foster City General Plan, Land Use and Circulation Element.* February 1.

30 miles per hour from the San Mateo city limit to Foster City Boulevard, after which the speed limit is 25 miles per hour.

- **Metro Center Boulevard** is a four-lane, east-west arterial that runs parallel to SR-92 south and extends between Edgewater Boulevard and Foster City Boulevard where it becomes Triton Drive. Access to eastbound SR-92 is provided by hook ramps just west of Foster City Boulevard. The speed limit is 35 miles per hour.

- **Foster City Boulevard** is a four- to six-lane arterial that extends from East Third Avenue, across SR-92, to Beach Park Boulevard. It is a major north-south arterial in Foster City. On-street parking is allowed along northbound Foster City Boulevard between Bounty Drive and approximately 450 feet south of East Hillsdale Boulevard. The speed limit is 35 miles per hour, except for the segment between East Hillsdale Boulevard and Bounty Drive, where the speed limit is 40 miles per hour.

- **Fashion Island Boulevard** is a four-lane, east-west collector that connects Bridgepoint Circle to 19th Avenue to the west. It has a full access interchange with US-101 in San Mateo. At Bridgepoint Circle, Fashion Island Boulevard continues as Bridgepoint Parkway to the east. The speed limit is 35 miles on Fashion Island Boulevard and is 30 miles per hour on Bridgepoint Parkway.

- **Shell Boulevard** is a four-lane arterial that runs north-south from Metro Center Boulevard to Beach Park Boulevard. The speed limit is 35 miles per hour.

- **East Third Avenue** is a four-lane divided arterial that runs in an east-west direction along the San Francisco Bay shoreline north of SR-92. It has a full access interchange with US-101 in the San Mateo. The speed limit is 45 miles per hour west of Foster City Boulevard and 40 miles per hour east of Foster City Boulevard.

- **Mariners Island Boulevard** connects Edgewater Boulevard and SR-92 eastbound ramps on the south end and East 3rd Avenue on the north end. It is a four-lane collector with raised medians. On-street parking is allowed on the west side of Mariners Island Boulevard between Third Avenue and Armada Way. The speed limit is 35 miles per hour.

Pedestrian Facilities. Pedestrian facilities comprise sidewalks, off-street pathways, marked and enhanced crosswalks (mid-block and at intersections), curb ramps, median refuges, and pedestrian-scale lighting. Pedestrian facilities were assessed during a site visit in August 2021. Sidewalks are provided along both sides of all roadways around the project site, with marked crosswalks and curb ramps at all intersections. Pedestrian signals with pedestrian-activated push buttons are provided at signalized intersections. Medians are often present on the wide boulevards, but median refuge islands are rarely provided for pedestrians.

Bicycle Facilities. Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the Highway Design Manual (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary

types of bikeway facilities: Class I, Class II, Class III, and Class IV. These facility types are described below.

- **Class I Bikeways** (Bike Path) provide a completely separate right-of-way, are designated for the exclusive use of bicycles and pedestrians, and minimize vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed.

- **Class II Bikeways** (Bike Lanes) are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally 5 feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. Note that when grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways.

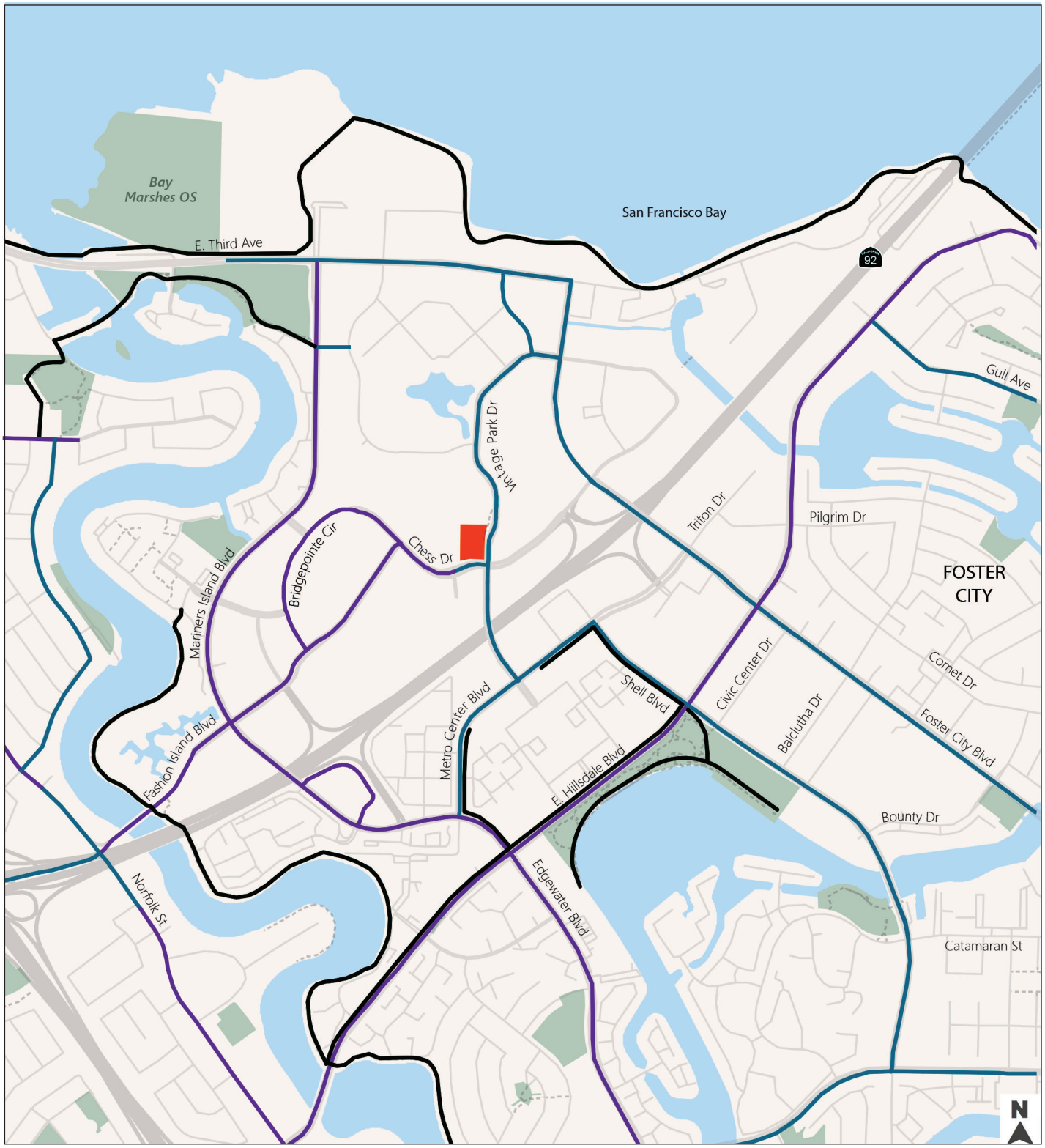
- **Class III Bikeways** (Bicycle Routes/Bicycle Boulevards) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to (a) provide continuity to other bicycle facilities or (b) designate preferred routes through high-demand corridors. Bicycle routes are implemented on low-speed (less than 25 mile-per-hour) and low-volume (fewer than 3,000 vehicles/day) streets.

- **Class IV Bikeways**, also known as “cycle tracks” or “protected bike lanes,” provide a right-of-way designated exclusively for bicycle travel within a roadway and which are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.

Figure 4.3-1 shows current bicycle facilities near the project site.[5] One bicycle facility provides direct access to the project site: a Class III bike route marked with green sharrows on Vintage Park Drive. Class II bike lanes on Chess Drive in San Mateo to the west of the project site also provide connections to other Class II bike lanes in the study area, including on Bridgepointe Circle, Fashion Island Drive, and Mariners Island Boulevard.

Additional Class III bike routes are on East Third Avenue, Foster City Boulevard, Shell Boulevard, and East Hillsdale Boulevard. However, these bicycle facilities would be ranked as a having a high “Level of Traffic Stress.” This is a measurement of bicycling comfort based on roadway characteristics. Low-stress bikeways are comfortable for everyone to ride on, including people who would be categorized as “interested, but concerned.” In contrast, high stress bikeways are only tolerated by a few, primarily those who could be described as “strong and fearless” – those comfortable riding under any conditions (about 7 percent of the population). Class II or Class II bicycle facilities on roadways with multiple lanes of vehicle traffic and speed limits above 25 miles per hour would be categorized as high-stress bikeways.

[5] There are currently no unbuilt proposed bicycle facilities in the vicinity of the project site.



LSA

FIGURE 4.3-1

Bicycle Facilites

Class I - Bike Path

Class II - Bike Lane

Class III - Bike Route

Project Site

N

NOT TO SCALE

388 Vintage Park Drive Project EIR

Existing Bicycle Network

SOURCE: Fehr & Peers, December 14, 2021

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All bicycle facilities adjacent to the project site would be categorized as high stress. As such, it would be unlikely that any but the most confident and fearless bicyclists would feel comfortable bicycling to the project site.

Transit Services and Facilities. Transit service within Foster City near the Project site is provided by several agencies. San Mateo County Transit District (SamTrans). SamTrans is the primary regional and local transit provider within San Mateo County, serving all rail stations within the county and major transit transfer points for Santa Clara, Alameda, and San Francisco counties. The Bay Area Rapid Transit (BART) and Caltrain rail systems provide regional connections to San Francisco in the north and Santa Clara County in the south. The Peninsula Traffic Congestion Relief Alliance (Commute.org) operates shuttle routes connecting to BART and Caltrain stations. Additionally, Alameda-Contra Costa Transit District (AC Transit) provides bus service from San Mateo County to Alameda County.

Transit service from each of these agencies is described below in Table 4.3.A and depicted in Figure 4.3-2. Many service operators continue to run reduced schedules due to the COVID-19 pandemic. The schedule and service information described below reflects pre-COVID-19 timetables, which SamTrans plans to resume when workers resume in-person work.

Several transit agencies are considering major service changes that could alter transit service to Foster City over the next few years. First, SamTrans is currently conducting a comprehensive service revisioning process, named “Reimagine SamTrans.” As of August 2021, SamTrans has developed three new potential bus system alternatives and is soliciting community feedback to inform the final proposal. Additionally, the San Mateo County Transit District Shuttle Study is undertaking a comprehensive and holistic analysis of the publicly available first/last mile shuttles serving San Mateo and Santa Clara Counties and includes recommendations for how the shuttle program might be restructured. This could eventually change the shuttle routes operated by Commute.org, which are partially funded through this program.

SamTrans. SamTrans operates Route 251, Route 256, Route 54, Route 57, and Route FCX in Foster City. Route 251 provides a connection between the Hillsdale Shopping Center and Hillsdale Caltrain station in San Mateo, Foster City, and the Bridgepointe Shopping Center in San Mateo. Route 256 operates along the same route as Route 251, but in the opposite direction for the loop within Foster City. Routes 54 and 57 serve the weekday morning and afternoon school commute to/from Bowditch Middle School and Hillsdale High School in San Mateo and Foster City, respectively. Route FCX (Foster City Commuter Express) operates weekday morning service from Foster City to San Francisco and evening service from San Francisco to Foster City. A bus stop on Chess Drive directly south of the project site serves Routes 251 and 256 traveling in the westbound direction. A bus stop at 3000 Bridgepointe Parkway (500 feet as the crow flies from the project site, or 0.4 mile walking) serves Routes 251 and 256 traveling in the eastbound direction.

In addition to its traditional bus routes, SamTrans runs paratransit service for persons with disabilities through its Redi-Wheels program. The Foster City Parks & Recreation Department’s Senior Express Shuttle also operates on-demand service for Foster City residents who are 50 years of age and above.

Table 4.3.A: Existing Transit Service

Service Provider	Name/Description	Hours of Operation (Headways)[a]	Service Status (July 2021)
SamTrans	251 – Caltrain Connection	11:30 a.m. – 8:17 p.m. Weekdays (60 min.) 8:30 a.m. – 7:20 p.m. Saturdays (120 min.)	Reduced service
	256 – Caltrain Connection	6:34 a.m. – 5:25 p.m. Weekdays (60 min.) 7:30 a.m. – 8:18 p.m. Saturdays (120 min.)	Same service
	54 – School Service	7:39 a.m. – 8:05 p.m. Weekdays (one bus) 1:50 PM – 3:40 p.m. Weekdays (six buses)	Suspended
	57 – School Service	6:50 a.m. – 7:20 a.m. Weekdays (one bus) 2:10 p.m. – 4:02 p.m. Weekdays (two buses)	Suspended
	FCX – Foster City Commuter Express	6:00 a.m. – 8:00 a.m. Weekdays (30 min.) 3:30 p.m. – 6:00 p.m. Weekdays (30 min.)	Same service
AC Transit	M – Transbay Service	5:57 a.m. – 6:53 p.m. Weekdays (40 min.)	Suspended
Commute.org	NFC – North Foster City-Millbrae BART/Caltrain	6:35 a.m. – 10:02 a.m. Weekday (30 min.) 4:04 p.m. – 7:18 p.m. Weekday (30 min.)	Reduced service
	LC – Foster City-Lincoln Centre Caltrain	7:00 a.m. – 9:40 a.m. Weekday (45 min.) 3:08 p.m. – 7:05 p.m. Weekday (40 min.)	Reduced service
	MAR – Mariners Island Caltrain	7:00 a.m. – 10:25 a.m. Weekday (45 min.) 3:12 p.m. – 6:39 p.m. Weekday (45 min.)	Reduced service

Source: Fehr & Peers (2021).

[a] Hours of operation reflect those in place prior to the beginning of the ongoing COVID-19 pandemic.

AC Transit = Alameda-Contra Costa Transit District
BART = Bay Area Rapid Transit
min. = minutes
SamTrans = San Mateo County Transit District

LSA

FIGURE 4.3-2

- Bus or Shuttle Stop
- SamTrans Route
- SamTrans Express Route
- AC Transit Route
- Commute.org Route
- Project Site

N

NOT TO SCALE

SOURCE: Fehr & Peers, August 2021

388 Vintage Park Drive Project EIR
Existing Transit Service

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AC Transit. AC Transit provides transbay service between Hayward and San Mateo. Line M operates across the San Mateo Bridge/SR-92 and travels on Foster City Boulevard, Chess Drive, Vintage Park Drive, Metro Center Boulevard, and East Hillsdale Boulevard in Foster City. A bus stop on Vintage Park Drive serves Line M for westbound morning and eastbound afternoon and evening trips and is approximately 500 feet north of the project site. As of June 13, 2021, AC Transit has temporarily suspended the transbay service Line M in response to the COVID-19 pandemic. The timeline for service return is unknown.

Commute.org Shuttles. The Mariners Island Shuttle provides service between the Hillsdale Caltrain Station and businesses in the San Mateo and Foster City boundary areas during commute hours, Monday through Friday. The nearest Mariners Island Shuttle stop to the project site is about 400 feet east of the project site.

The North Foster City Shuttle and Lincoln Centre Shuttle also operate in Foster City. The North Foster City Shuttle provides service between the Millbrae Intermodal Station (with BART and Caltrain service) and businesses and office buildings in the North Foster City Area during commute hours, Monday through Friday. The Lincoln Centre Shuttle runs between the Belmont Caltrain Station and businesses in the Lincoln Centre Area in north Foster City. The nearest shuttle stop for both routes is located at Bridgepoint Circle and Bridgepoint Parkway, about 0.2 mile to the west of the Project site.

Both shuttles currently operate with reduced service relative to pre-COVID service levels. At the present, there is no clear plan for when shuttles will return to pre-COVID service levels.

4.3.1.2 Analysis Scope and Methodology

Until July 1, 2020, roadway congestion or LOS was used as the primary study metric for planning and environmental review of development projects in California. However, SB 743 required the OPR to establish a new metric for identifying and mitigating transportation impacts pursuant to CEQA in an effort to meet the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. OPR identified VMT as the required CEQA transportation metric and beginning July 1, 2020, VMT (not LOS) is the only legally acceptable threshold for transportation-related environmental impacts pursuant to CEQA.

VMT is a measurement of the amount and distance that a person drives, accounting for the number of passengers within a vehicle. Many interdependent factors affect the amount and distance a person might drive. In particular, the type of built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travel (e.g., private vehicle, public transit, bicycling, walking). Typically, low-density development located at great distances from other land uses and in areas with few alternatives to the private vehicle provides less access than a location with high density, mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT per capita compared to a similarly sized development located in urban areas. In general, higher VMT areas are associated with more air pollution, including GHG emissions and energy usage, than lower VMT areas. VMT is calculated by multiplying the number of trips generated by a project by the total distance of each of those trips.

Lead agencies have the discretion to set their own thresholds of significance with the goals of the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. The City does not currently have an adopted VMT threshold. OPR recommends that a per capita or per employee VMT that is 15 percent below that of existing development may be a reasonable threshold. OPR's guidance on thresholds is presented in the OPR Technical Advisory and the California Air Resources Board's (CARB) 2017 Scoping Plan – Identified VMT Reductions and Relationship to State Climate Goals. The CARB analysis indicates that the VMT threshold would need to be 16.8 percent for automobile-only VMT to achieve State GHG reduction goals. These points of reference are subject to change over time, however, depending on statewide forecasts of population and travel, as well as economic conditions (e.g. short-term and long-term effects of the COVID-19 pandemic).

OPR recommends office project VMT should be compared to a total work-based VMT/employee threshold. This metric helps compare the project's relative transportation efficiency to the regional average (i.e., all else being equal, does creating new employment in this area result in more or less VMT per employee than creating it in other areas?). The analysis in this EIR uses a home-based work VMT per employee as the metric for evaluation of the proposed project. Home-based work VMT only accounts for commute trips and does not capture work-based other trips that may occur throughout the day (e.g., driving to lunch or to meetings during the middle of the day) due to differences in trip-based and tour-based models. Home-based work VMT per employee is an appropriate metric to use because it is normalized and compared to similar baseline values.

A significant impact would occur should existing home-based work VMT per employee in the travel demand analysis zone (TAZ) that encompasses the project results in greater than 14.3 VMT per employee under existing conditions. This is based on the threshold of 15 percent below the existing county-wide average of 16.8 VMT per employee. The City of Foster City selected county-wide average for use as a threshold to account for both local context and regional land use characteristics.

4.3.1.3 Regulatory Framework

The following State, regional, County of San Mateo and local transportation plans, policies, and regulations guide transportation planning in Foster City.

State Regulations. This section summarizes applicable State regulations guiding transportation planning in Foster City.

> ***California Department of Transportation.*** Caltrans is responsible for the maintenance and operation of State routes and highways. In Foster City, Caltrans facilities include SR-92 and US-101. Caltrans maintains a volume monitoring program and reviews local agencies planning documents (such as this Environmental Impact Report [EIR]) to assist in its forecasting of future volumes and congestion points. The Guide for the Preparation of Traffic Impacts Studies published by Caltrans is intended to provide a consistent basis for evaluating traffic impacts to State facilities. The City recognizes that "Caltrans endeavors to maintain a target level of service at the transition between LOS C and LOS D on State highway facilities"; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency

consult with Caltrans to determine the appropriate target level of service. Caltrans states that, for existing State highway facilities operating at less than the target LOS, the existing LOS should be maintained.

Caltrans released a VMT-Focused Transportation Impact Study Guide (May 20, 2020) that recommends use of the OPR recommendations for land use projects and plans. For transportation projects, Caltrans has suggested that any increase in VMT would constitute a significant impact for transportation projects. This has been referred to as the "Net Zero VMT threshold."

Senate Bill 375. As a means to achieve the Statewide emission reduction goals set by Assembly Bill 32 ("The California Global Warming Solutions Act of 2006"), SB 375 ("The Sustainable Communities and Climate Protection Act of 2008") directs the CARB to set regional targets for reducing GHG emissions from cars and light trucks. Using the template provided by the State's Regional Blueprint program to accomplish this goal, SB 375 seeks to align transportation and land use planning to reduce VMT through modified land use patterns. There are five basic directives of the bill: (1) creation of regional targets for GHG emissions reduction tied to land use, (2) a requirement that regional planning agencies create a sustainable communities strategy (SCS) to meet those targets (or an Alternative Planning Strategy if the strategies in the SCS would not reach the target set by CARB), (3) a requirement that regional transportation funding decisions be consistent with the SCS, (4) a requirement that the Regional Housing Needs Allocation numbers for municipal general plan housing element updates must conform to the SCS, and (5) CEQA exemptions and streamlining for projects that conform to the SCS. The implementation mechanism for SB 375 that applies to land use in Foster City is Plan Bay Area.

Senate Bill 743. SB 743 was signed into law in 2013 and fundamentally changed the way transportation impacts under CEQA are analyzed. It required the OPR to "prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the [CEQA] guidelines …establishing criteria for determining the significance of transportation impacts of projects" to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

On December 28, 2018, the Natural Resources Agency adopted *State CEQA Guidelines* Section 15064.3, which establishes specific criteria for evaluating a project's transportation impacts and states that "vehicle miles traveled is the most appropriate measure of transportation impacts". It gives agencies the "discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure" provided that "[a]ny assumptions used to estimate vehicle miles traveled… should be documented and explained in the environmental document prepared for the project." Section 15064.3 further states that except for certain transportation projects, "a project's effect on automobile delay shall not constitute a significant environmental impact." See *Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 Cal. App. 5th 609, 626 (holding that a general plan's impact on LOS, which effectively measures automobile delay, can no longer constitute a significant environmental impact).

Additionally, OPR issued a technical advisory memorandum in December 2018 that includes general guidance and information for lead agencies to use in implementing SB 743, including choosing VMT methodology and establishing VMT thresholds. Lead agencies have until July 1, 2020 to implement methodologies and thresholds related to VMT to comply fully with SB 743. Because Foster City has not yet adopted citywide generally applicable VMT thresholds for impact determination (pursuant to 14 Cal. Code Regs 15064(b) and because LOS analysis can no longer be used to make impact determinations, a project-specific (or ad hoc) VMT threshold is used for this analysis as allowed under CEQA and as explained in further detail in other sections.

Regional Regulations. This section summarizes applicable regional regulations guiding transportation planning in Foster City.

Metropolitan Transportation Commission. The Metropolitan Transportation Commission (MTC) is responsible for planning, coordinating, and financing transportation projects in the nine-county Bay Area. The local agencies that comprise these nine counties help the MTC prioritize projects based on need, feasibility, and conformance with federal and local transportation policies. In addition to coordinating with local agencies, the MTC distributes State and federal funding through the Regional Transportation Improvement Program.

Plan Bay Area. Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. This strategy integrates transportation, land use and housing to meet greenhouse gas reduction targets set by the CARB. The plan meets those requirements. In addition, the plan sets a roadmap for future transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

In the Bay Area, the MTC and the Association of Bay Area Governments adopted Plan Bay Area 2050 in October 2021. To meet the GHG reduction targets, the plan identifies four Growth Geographies where future growth in housing and jobs should be focused: priority development areas (PDAs), priority production areas (PPAs), transit-rich areas (TRAs), and high-resource areas (HRAs). The agencies estimate more than 80 percent of housing growth would occur within TRAs and nearly 30 percent would be within HRAs, and more than 60 percent of job growth would be within walking distance of high-quality transit between 2015 and 2050.[6] The project site is not within a Growth Geography.

City/County Association of Governments of San Mateo Congestion Management Program. The purpose of the Congestion Management Plan (CMP) is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide transportation solutions. To monitor attainment of the CMP, the C/CAG adopted the roadway LOS standards. The LOS standards established for San Mateo County vary by roadway segments and conform to current land use plans and development differences among the coast, bayside, older downtowns, and other areas of San Mateo County. C/CAG has a

[6] Note: Growth projections do not sum to 100 percent because PDAs, TRAs, and HRAs are not mutually exclusive.

countywide threshold of 100 added peak-hour trips when determining if any CMP roadway facilities should be included as part of the TIA.

San Mateo County Comprehensive Bicycle and Pedestrian Plan. The San Mateo County Comprehensive Bicycle and Pedestrian Plan was developed by the C/CAG with support from the San Mateo County Transportation Authority to address the planning, design, funding, and implementation of bicycle and pedestrian projects countywide. The following lists relevant goals and policies:

Goal 2: More People Riding and Walking for Transportation and Recreation

- **Policy 2.6**: Serve as a resource to county employers on promotional information and resources related to bicycling and walking.

Goal 4: Complete Streets and Routine Accommodation of Bicyclists and Pedestrians

- **Policy 4.1:** Comply with the complete streets policy requirements of Caltrans and the Metropolitan Transportation Commission concerning safe and convenient access for bicyclists and pedestrians, and assist local implementing agencies in meeting their responsibilities under the policy.

- **Policy 4.5:** Encourage local agencies to adopt policies, guidelines, standards, and regulations that result in truly bicycle-friendly and pedestrian-friendly land use developments, and provide them technical assistance and support in this area.

- **Policy 4.6:** Discourage local agencies from removing, degrading or blocking access to bicycle and pedestrian facilities without providing a safe and convenient alternative.

City of Foster City. This section summarizes applicable City's regulations guiding transportation planning in Foster City.

Foster City General Plan. The Land Use and Circulation Element of the Foster City General Plan was adopted in February 2016. The applicable circulation goals, policies, and programs related to transportation impacts related to the construction of the project are included below. Foster City's City Council recently adopted amendments to the General Plan to include reference to the recently adopted Green Infrastructure Plan, which encourages all street design and development to incorporate green streets and green infrastructure best practices.

- **Goal LUC-E: Provide for Diversified Circulation Needs.** Develop, improve and maintain a circulation system which provides efficient and safe access for private vehicles, commercial vehicles, public transit, emergency vehicles, bicycles and pedestrians.

    - **Policy LUC-E-1: Improvements to Existing Streets.** The City will maintain and improve the existing system of major and collector streets.

- **Policy LUC-E-2: Complete Streets.** The City will plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel.

- **Policy LUC-E-3: Streets in Residential Neighborhoods.** Residential neighborhoods shall be protected from through traffic by maintaining the system of narrower collector and local streets and minimizing the number of through streets. To accomplish this, the City may consider other traffic calming techniques.

- **Policy LUC-E-4: Private Streets and Public Loop or Cul-de-Sac Streets.** The City will enforce design standards for private streets and public loop or cul-de-sac streets to ensure that they meet minimum requirements for two-way traffic, parking, and emergency access. Private streets and public loop or cul-de-sac streets may be approved with narrower than standard widths, provided that emergency access and parking can be safely accommodated. They are not intended to provide curbside parking, and the roads are designed to serve only those residences on that street or within that development.

- **Policy LUC-E-5: Access to New Commercial and Industrial Projects.** New commercial and industrial developments shall be designed so that, wherever necessary and possible, entrance to the projects can be gained by way of left- or right-turn only lanes. Only the minimum number of entrance or exit points shall be allowed as are needed to ensure safe and efficient internal traffic flow and to reduce through traffic delays on public roads serving the project.

- **Policy LUC-E-6: Create Opportunities for Transit Access.** Create opportunities to improve transit and access to regional transit with new or modified development, as appropriate.

- **Policy LUC-E-7: Coordination with Transit Agencies that Serve San Mateo County.** The City shall work with SamTrans, Alameda-Contra Costa Transit District (AC Transit), the Peninsula Traffic Congestion Relief Alliance, RIDES and other agencies that serve San Mateo County in defining new transit routes and improving the public transit and transportation system.

- **Policy LUC-E-8 Pedestrian, Bicycle and Neighborhood Electric Vehicle (NEV) Friendly Design.** Encourage bicycling, walking and use of NEVs instead of driving automobiles to reduce greenhouse gas emissions, save money on fuel and maintenance, and foster a healthier population. Prioritize pedestrian and bicycle-friendly improvements including bike lanes on main streets, an urban bike-trail system, bike parking, pedestrian crossings, and associated master plans with new or modified development, as appropriate.

- **Policy LUC-E-9: Bicycle Routes and Pedestrian Paths.** Maintain a system of bicycle routes and pedestrian paths, which will include separate bicycle lanes and posted bicycle routes. Pedestrian pathways and easements shall be maintained, either by the

City, or, in the case of private ownership, according to a maintenance agreement or landscaping district agreement applicable to the pathway/easement.

- **Goal LUC-F: Maintain Acceptable Operating Conditions on the City's Road Network.** Maintain acceptable operating conditions on the City's road network at or above LOS D, or equivalent measurement, and encourage the maximum effective use of public and private vehicles, reduce the growth in peak hour traffic volumes and reduce single passenger trips.
    - **Policy LUC-F-1: Traffic Level of Service Standards.** The City shall seek to achieve a traffic service level of "C" or better on City streets and level of "D" or better during peak traffic hours, although it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive, the Foster City Boulevard / Metro Center Boulevard / Triton Drive, Vintage Park Drive / Chess Drive, and the Foster City Boulevard / Chess intersections due to their role as access points to the freeway system. The level of service standard will be maintained through the following means:
        - Intelligent Transportation Systems (ITS).
        - Transportation Demand Management (TDM) for development projects.
        - Capital Improvement Program and coordination with federal, state, county and district funding programs for street and other transportation improvements.
        - Developer payment of pro rata fair share of traffic improvement costs for new developments.
- **Goal LUC-G: Provide Adequate Parking.** Ensure that adequate off-street parking is incorporated into new and modified projects and designed for safe and effective circulation.
    - **Policy LUC-G-2: Preferred Parking/Electric Plug-in.** Encourage businesses, developers, and property managers to create preferred parking for electric and alternative fuel vehicles and study the installation of electric charging stations for plug-in vehicles.
    - **Policy LUC-G-3: Off-Street Parking Requirements.** The City shall maintain off-street parking requirements based on use permits of record, the historical parking patterns of residential and non-residential projects, and related information developed by the Urban Land Institute, Institute of Traffic Engineers, or other reliable sources.
- **Goal LUC-H:** Foster a More Sustainable Community. Strive to be a community that meets the needs of the present without compromising the ability of future generations to meet their own needs by promoting land use strategies that decrease reliance on automobile use, increase the use of alternative modes of transportation, maximize efficiency provision of services and reduce emissions of GHGs.

- **Policy LUC-H-2: Reduce GHG Emissions.** The City will strive to reduce GHG emissions by reducing vehicle miles traveled by supporting trip reduction programs and encouraging the use of alternative fuels and transportation technologies.

- **Goal LUC-L: Provide Adequate Services and Facilities.** Ensure that new and existing developments can be adequately served by municipal services and facilities.

4.3.2 Impacts and Mitigation Measures

This section analyzes the potential of the proposed project to result in impacts on the transportation network. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and identifies mitigation measures, as appropriate.

4.3.2.1 Significance Criteria

The proposed project would result in a significant impact related to transportation if it would:

1) Conflict with an applicable plan, ordinance, or policy, including the congestion management program, addressing all components of the circulation system;

2) Exceed an applicable VMT threshold of significance;

3) Substantially increase hazards due to a design feature or incompatible uses; or

4) Result in inadequate emergency access.

To apply the significance criteria listed above, the analysis in this section uses the following significance thresholds, which are based on federal, State, and local regulations.

Criterion 1. The following thresholds are used to determine whether the proposed project would conflict with an applicable plan, ordinance, or policy, including the congestion management program.

Transit. Based on General Plan Goals LUC-E and LUC-H and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to transit would be considered significant if the project would:

a. Disrupt existing transit services or facilities. This includes disruptions caused by project access points or staging areas near streets used by transit and transit stops/shelters; or

b. Interfere with planned transit services or facilities; or

c. Conflict or create inconsistencies with adopted transit system plans, guidelines, policies, or standards.

Roadway System. Per SB 743, transportation impacts related to vehicle delay or LOS are no longer considered significant environmental impacts. The criteria listed below related to intersection and freeway segments are discussed for consistency with General Plan Goal LUC-F.

Intersection effects would be inconsistent with the standards set forth in the General Plan if the project would:

a. Cause a signalized intersection operating at an acceptable level of service (LOS A-D) to deteriorate to an unacceptable level (LOS E-F) with the addition of project trips; or

b. Increase average delay by four or more seconds at an intersection that is already operating at an unacceptable level (LOS E-F) without the project.

As noted above, Policy LUC-F in the Foster City General Plan Land Use and Circulation Element states that it will be necessary to accept LOS E or F at the following intersections: Chess Drive/SR-92 ramps, Foster City Boulevard/Triton Boulevard/Metro Center Boulevard, and East Hillsdale Boulevard/Edgewater Boulevard.

Bicycle and Pedestrian Facilities. Based on General Plan Goals LUC-E and LUC-H and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to bicycle and pedestrian facilities would be considered significant if the project would:

a. Disrupt existing or planned bicycle or pedestrian facilities (e.g. San Mateo County Bike Plan, Foster City Bicycle Master Plan); or

b. Create inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

Criterion 2. The following threshold is used to determine whether the proposed project would exceed the applicable VMT threshold of significance.

VMT. Based on California Air Resources Board (ARB) recommended thresholds,[7] impacts related to VMT would be considered significant if the project would:

a. Generate VMT/service population that is higher than 16.8 percent below the regional average.

As noted above, Foster City has not yet adopted generally applicable VMT thresholds for impact determination. Foster City is currently working with C/CAG to identify citywide VMT thresholds. The project-specific threshold used for analysis in this document is based on recommendations published by OPR, which is the most current available for Foster City at the time of preparation of this TIA. Additional information related to VMT thresholds is included in other sections.

[7] California Air Resources Board. 2019. 2017 Scoping Plan-Identified VMT Reductions and Relationships to State Climate Goals. January.

Criterion 3. The following threshold is used to determine whether the proposed project would substantially increase hazards due to a design feature or incompatible uses.

Hazards. Based on General Plan Goal LUC-E and the City's interpretation of CEQA Appendix G, impacts related to hazards would be considered significant if the project would:

a. Substantially increase hazards due to a geometric design feature; or

b. Result in an incompatible land use.

Criterion 4. The following threshold is used to determine whether the proposed project would conflict or create inconsistencies with adopted transit system plans, guidelines, policies, or standards.

Emergency Access. Based on General Plan Goal LUC-E and the City's interpretation of CEQA Appendix G, impacts related to emergency access would be considered significant if the project would:

a. Limit emergency vehicle access routes or roadway facilities; or

b. Create a project site that is inaccessible to emergency vehicles.

4.3.2.2 Proposed Project

As described in Chapter 3, Project Description, of this EIR, development of the proposed project would result in the demolition of the existing restaurant building and construction of a 120,164-square-foot, four-story office building including a ground-level podium and surface parking totaling 210 vehicle spaces, as well as associated open space, circulation and loading, and infrastructure improvements. A total of 95,931 square feet of R&D space is proposed, approximately 50 percent of which would be laboratory space and 50 percent would be office space, distributed evenly throughout each floor.

The ground level of the proposed building would include a garage that would contain 102 parking spaces and would be accessed from a driveway at the northwest corner of the proposed building. An additional 108 surface parking spaces would be provided along the northern and western boundaries of the project site, for a total of 210 parking spaces. A total of 20 bicycle parking spaces would be provided in a long-term storage room in the parking garage. A total of 14 motorcycle parking spaces would be provided throughout the project site. A loading dock that would be able to accommodate a WB-40 truck[8] would be provided at the northwestern corner of the building. An additional loading zone for package drop off is proposed at the main entry.

Trip Generation. Trip generation rates were determined using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The ITE rate for General Office Building was used to determine project trip generation. The proposed project would have a lower employee density than a typical office due to the lab space allocated to life sciences uses compared to

[8] A WB-40 truck is defined as a medium- to large-sized box truck or tractor trailer with a 40-inch wheelbase.

traditional office buildings. Based on the total number of employees at the site, the proposed project would have an employee density of 1 employee per 450 square feet. The ITE rate for General Office Building would have an approximate average employee density of 1 per 340 square feet. To reflect the effects of having a lower employee density associated with a life science use, trip generation rates per employee were used instead of trip rates per square foot of office use.

As shown in Table 4.3.B, application of the trip generation rates would result in a project-generated increase in the number of daily AM and PM peak-hour vehicle trips. The proposed project would generate 699 new daily vehicle trips, 78 net new AM peak-hour vehicle trips (65 inbound trips and 13 outbound trips), and 85 net new PM peak-hour vehicle trips (17 inbound trips and 68 outbound trips).

Table 4.3.B: Project Vehicle Trip Generation

Land Use	Units	ITE Code	Vehicle Trips						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed General Office Building	213 employees	710	699	65	13	78	17	68	85

Source: Fehr & Peers (2021).
ITE = Institute of Transportation Engineers

Proposed Transportation Demand Management Plan. The project sponsor would implement the proposed Transportation Demand Management Plan for 388 Vintage Park Drive (TDM Plan)[9] as part of the proposed project in an effort to reduce project-generated vehicle trips and VMT and encourage travel by other modes.

Per the C/CAG Transportation Demand Management Policy Update Approach,[10] non-residential projects (office, industrial, and institutional) that are considered large projects, generating greater than 500 average daily traffic (ADT), are required to develop a TDM plan to reduce the number of project ADT by 35 percent.

As shown in Table 4.3.B, the proposed project would generate 78 new trips in the AM peak hour and 85 new trips in the PM peak hour. Based on C/CAG's requirement, a 35 percent reduction would equate to 50 trips in the AM peak hour (a reduction of 28 trips) and 55 trips in the PM peak hour (a reduction of 30 trips).

The potential effectiveness of the proposed TDM measures was evaluated using TDM+, a tool based on Quantifying Greenhouse Gas Mitigation Measures,[11] a report for the California Air Pollution

9 Kimley Horn. 2021. *Proposed Transportation Demand Management for 388 Vintage Park Drive in Foster City, CA.* September 23.

10 Advanced Mobility Group. 2021. *C/CAG Transportation Demand Management Policy Update Approach.* March.

11 California Air Pollution Control Officers Association. 2010. *Quantifying Greenhouse Gas Mitigation Measures.* August.

Control Officer's Association (CAPCOA) produced in 2021. These estimates are widely accepted as the best available information on how TDM measures can affect VMT, greenhouse gas emissions, and overall vehicle trips to or from a site. The quantification methods provided in the CAPCOA report are based on an extensive literature review and are appropriate for use in this project-level analysis. Based on this assessment, the proposed TDM plan could reduce 10 percent of home-based work VMT per employee.

Proposed TDM measures are described below and summarized in Table 4.3.C.

- **Free/Preferential Parking for Carpools:** The proposed project would allocate a total of 14 preferred parking spaces, which includes clean air, vanpool, and electric vehicle spaces.
- **TDM Coordinator/Contact Person:** A designated TDM Coordinator would facilitate the TDM program.
- **Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent:** The project sponsor would coordinate with the building tenant and obtain certification of registration from Commute.org or similar TMA incorporation documents.
- **Carpool or Vanpool Program:** The proposed project would provide a carpool or vanpool program for employees and register the program with Commute.org for active users to become eligible for fiscal rewards.
- **Transit or Ridesharing Passes/Subsidies:** The project sponsor would distribute transit passes, subsidized transit passes, or carpool/vanpool subsidies equivalent to 30 percent of their monthly fare value or $50 monthly.
- **Pre-Tax Transportation Benefits:** The project sponsor would require that tenants provide employees the option to participate in a pre-tax transit program and use pre-tax income to pay for commute costs.
- **Secure Bicycle Storage:** The proposed project would provide enough bicycle parking spaces to meet the minimum California Green Building Standards Code requirements.
- **Showers, Lockers, and Changing Rooms for Cyclists:** The proposed project would include showers and changing rooms for those walking/bicycling to work. The proposed project is expected to provide four showers, lockers, and changing rooms.
- **Design Streets to Encourage Bicycle and Pedestrian Access:** The proposed project would provide bicycle and pedestrian access on-site.
- **Reduced Parking.** The proposed project would provide 210 parking spaces, which is more than 10 percent less than the 320 required parking spaces or 256 adjusted required parking spaces (TDM and bike/motorcycle adjustment) based on the City's Municipal Code.

Table 4.3.C: C/CAG TDM Policy Compliance

TDM Measure	C/CAG's Vehicle Trip Reduction Value	Included in 388 Vintage Park Drive TDM Plan?
Required TDM Measures		
Free/Preferential Parking for Carpools	1.0%	Yes
TDM Coordinator/Contact Person	0.5%	Yes
Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent	16.5%	Yes
Carpool or Vanpool Program	2.0%	Yes
Transit or Ridesharing Passes/Subsidies	10.0%	Yes
Pre-Tax Transportation Benefits	1.0%	Yes
Secure Bicycle Storage	1.0%	Yes
Showers, Lockers, and Changing Rooms for Cyclists	2.0%	Yes
Design Streets to Encourage Bike/Ped Access	1.0%	No[1]
Additional Recommended TDM Measures		
Flex Time, Compressed Work Week, Telecommute	5.0%	No
Paid Parking at Market Rate	25.0%	No
Short Term Daily Parking	2.0%	No
Reduced Parking	10.0%	Yes[2]
Developer TDM Fee / TDM Fund	4.0%	No
Car Share On-Site	1.0%	No
Land Dedication or Capital Improvements for Transit	4.0%	No
Shuttle Program/Shuttle Consortium/Fund Transit Service	10.0%	No
Bike/Scooter Share On-Site	1.0%	No
Active Transportation Subsidies	2.0%	No
Gap Closure	7.0%	No
Bike Repair Station	0.5%	No
Pedestrian Oriented Uses & Amenities on Ground Floor	3.0%	No
Project Vehicle Trip Reduction Value	**44%[3]**	

Source: Fehr & Peers (2021).

1. The Project sponsor indicated that the Project would qualify for this measure due to the proximity of a Class II bicycle lane within a half mile of the Project site. Of the two roadways adjacent to the Project, Vintage Park Drive is a designated Class III bike route and Chess Drive has a Class II bike lane west of the project site in San Mateo. However, due to the number of lanes and vehicular speed limits, as noted in the Foster City Bicycle Network Assessment (2017), both roads would be classified as high stress (Level of Traffic Stress, or LTS, 4). High stress bikeways are only tolerated by a few: primarily those who could be described as "strong and fearless" – those comfortable riding under any conditions (about 7% of the population). Additionally, the C/CAG requirements note that other criteria could include direct pedestrian connections to transit and a front setback of less than 20 feet. The Project entrance is approximately 38 feet from the sidewalk.
2. Parking reductions qualify if the Project provides off-street private parking at least 10% below local zoning code required minimums, on a per unit or square foot basis. The Project would provide less parking than required under City parking requirements (256 required; 210 proposed).
3. These calculations differ from the CEQA VMT reductions described above as these calculations are based on planning-level vehicle trip reduction estimates for compliance purposes with San Mateo County's Congestion Management Plan and are not applicable for CEQA reductions.

C/CAG = City/County Association of Governments of San Mateo County
CEQA = California Environmental Quality Act
TDM = Transportation Demand Management
VMT = vehicle miles traveled

4.3.2.3 Project Impacts

This section analyzes potential project-specific and cumulative impacts to the transportation and circulation network in the study area.

1) Conflict with an applicable plan, ordinance, or policy, including the congestion management program, addressing all components of the circulation system

This section discusses the proposed project's impacts related to conflicts with applicable plans, ordinances, and policies. As discussed in more detail below, for CEQA purposes, the proposed project would be consistent with applicable plans, ordinances, and policies that address the circulation system; therefore, impacts would be less than significant.

Transit Facilities. The proposed project would generate vehicle trips in the vicinity of existing transit services and would generate some new transit trips to existing routes. AC Transit, SamTrans, and Commute.org shuttles travel along the project's frontage. The addition of 85 vehicle trips during the PM peak hour, or 1 to 2 new vehicles per minute, would not create a disruption to transit service surrounding the project site. Project-added vehicle trips represent less than 2 percent of entering volumes at study intersections during the PM peak hour. Most people are expected to arrive by automobile to the project site; therefore, the proposed project is not expected to generate a substantial number of new transit trips that would cause any transit route to require additional capacity. The proposed project would not include features that would disrupt existing or planned transit routes or facilities. The project site's driveways would not cause disruptions to existing or planned transit service or transit stops. The proposed project would not conflict with any adopted transit system plans, guidelines, policies, or standards. Therefore, impacts to transit facilities would be less than significant.

Roadway Facilities. With the addition of project trips, the intersections of Chess Drive/Foster City Boulevard, Chess Drive/SR-92 westbound ramps, Foster City Boulevard/Metro Center Boulevard, and Metro Center Boulevard/SR-92 eastbound ramps would continue to operate at an acceptable LOS with project-added trips during the AM peak hour. During the PM peak hour, all intersections operate at the same LOS as under Existing Conditions, except the intersection of Chess Drive/SR-92 westbound ramps during the PM peak hour, which would degrade from LOS D to LOS F. Adjusting the signal timing by transferring an additional 3 seconds to the eastbound through movement from the westbound approach would reduce the average delay at this intersection to an acceptable LOS D. However, the City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 westbound ramps/Chess Drive. Therefore, the potential for project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and implementation of the proposed project would not require any modifications to this intersection. The City would monitor roadway conditions and signal operations as a part of routine maintenance and would adjust signal timing in the future as traffic conditions warrant. The intersections of Chess Drive/Foster City Boulevard, Foster City Boulevard/Metro Center Boulevard, and Metro Center Boulevard/SR-92 eastbound ramps continue to operate at unacceptable LOS E or F with the addition of project trips, similar to existing conditions. Therefore, intersection operations under Existing Plus Project Conditions are anticipated to be consistent with standards set forth in the General Plan.

Pedestrian and Bicycle Facilities. As shown on Figure 4.3-3, a new 15-foot-wide, on-site pathway would provide direct, barrier-free non-motorized access to both the proposed building's main entrance and secure bicycle parking facility, which is approximately 80 feet south of the main entrance. Secondary pedestrian access is provided between Chess Drive and the building's south elevation via a five-foot-wide pathway.

The proposed building's main entrance and overall site layout is generally pedestrian-oriented; building entrances are visible from and directly accessible from the public street while parking and vehicle driveways are to the sides and rear of the site. As described previously, the project site is served by existing public sidewalks and City-designated Class III bicycle routes along both the Vintage Park Drive. The lack of dedicated bicycle facilities along both streets requires bicyclists to share the roadway with vehicles to access the project site.

The two proposed driveways at Chess Drive and Vintage Park Drive would be at street grade, which requires pedestrians traveling along the sidewalk to ramp down when crossing the driveways. To ensure adequate accessibility for people walking along Chess Drive and Vintage Park Drive, the proposed project would be required to comply with City requirements to provide either (1) sidewalk-grade driveways, consistency with applicable City standards or an approved standard from a neighboring jurisdiction at the Chess Drive and Vintage Park Drive driveways on the project site; or (2) curb ramps that are consistent with the City's accessibility standard at all driveways on the project site.

Construction of these features would ensure that potential impacts related to pedestrian facilities would be reduced to a less-than-significant level.

Parking and Loading. The proposed project would provide adequate loading spaces to meet City requirements. Although, the project does not meet the City's parking requirements, the number of parking spaces would be adequate for the parking demand; therefore, the project is not anticipated to create a parking shortfall.

2) Exceed an applicable VMT threshold of significance

Senate Bill 743 and the resulting *State CEQA Guidelines* update replace the use of LOS for determining transportation impacts with an evaluation of daily VMT. VMT is a measurement of the amount and distance that a person drives, accounting for the number of passengers within a vehicle. Many interdependent factors affect the amount and distance a person might drive. In particular, the type of built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travel (e.g., private vehicle, public transit, bicycling, walking). Typically, low-density development at great distances from other land uses and in areas with few alternatives to the private vehicle provides less access than a location with high density, mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT per capita compared to a similarly sized development in urban areas. In general, higher VMT areas are associated with more air pollution, including GHG emissions, and energy usage than lower VMT areas. VMT is calculated by multiplying the number of trips generated by a project by the total distance of each of those trips.

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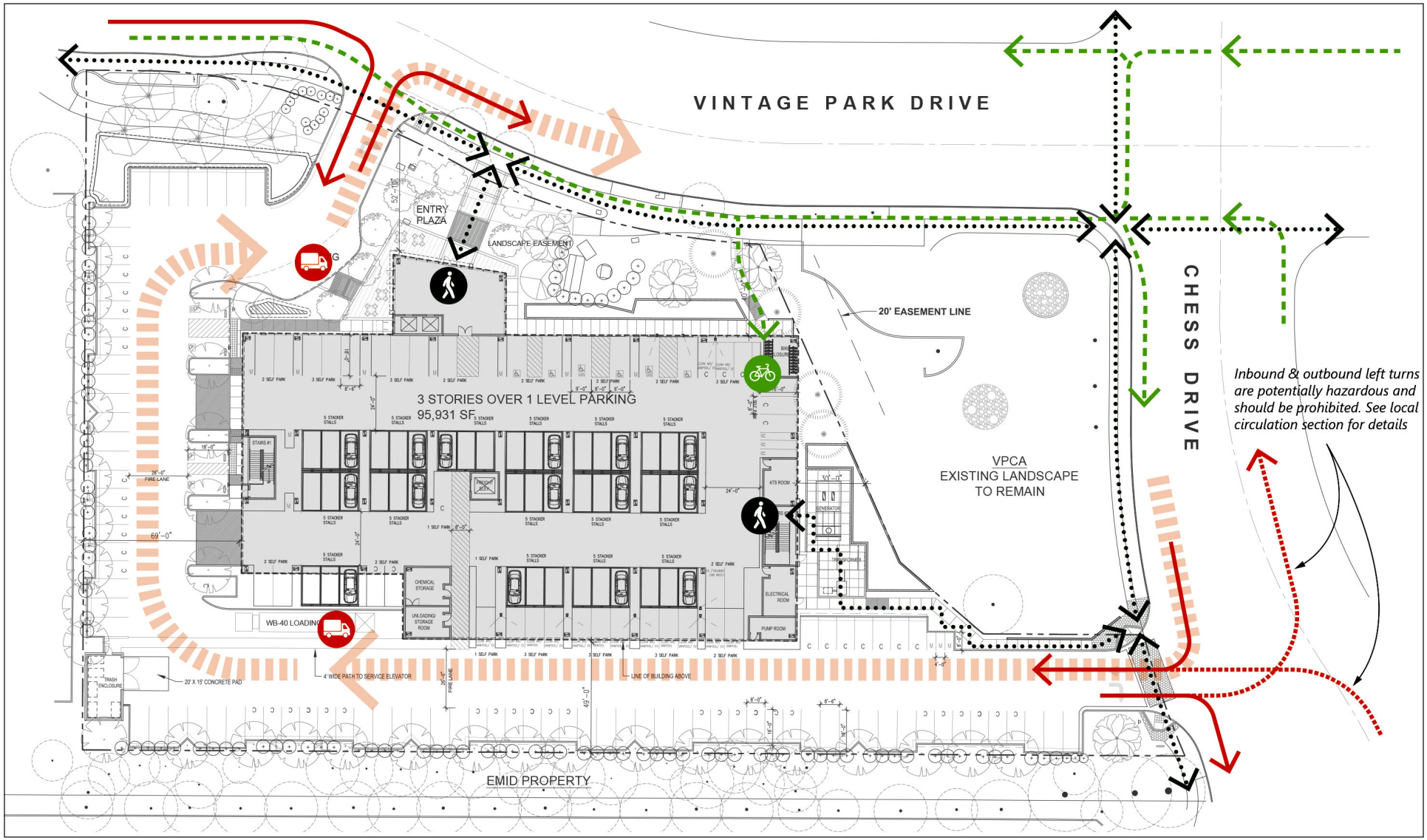

LSA

FIGURE 4.3-3

388 Vintage Park Drive Project EIR
Proposed Site Circulation

SOURCE: Fehr & Peers, December 14, 2021

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As previously discussed, the City has not yet adopted a citywide methodology or significance threshold for VMT impacts. Because the City has not yet adopted a VMT threshold, an interim project threshold was developed, as previously explained in Section 4.3.1.2 and further outlined in Appendix A of the TIA (Appendix C to this EIR).

A significant impact would occur should existing home-based work VMT per employee in the TAZ that encompasses the project result in greater than 14.3 VMT per employee under existing conditions. This is based on the threshold of 15 percent below the existing county-wide average of 16.8 VMT per employee. Table 4.3.D shows the average home-based work VMT per employee based on the C/CAG model in the 2015 base year (the year for which the most recent data is available).

Table 4.3.D: Home-Based Work VMT per Employee, by Location (2015 Estimates)

Location	HBW VMT per Employee
Threshold Geography Average (County of San Mateo)	16.8
VMT Threshold (15 percent below County of San Mateo)	14.3
Foster City Project Area (proposed project)	16.0
Proposed Project with 10% TDM Reduction	14.3
Expected Project Impact on VMT?	**No**

Source: Fehr & Peers (2021).
HBW = home-based work
TDM = transportation demand management
VMT = vehicle miles traveled

As previously described, the proposed project's TDM Plan would achieve a reduction in VMT of 10 percent. As shown in Table 4.3.D, implementation of the TDM Plan would reduce the average daily VMT per employee for the proposed project to 14.3, which is at the threshold of significance of 14.3. Therefore, with implementation of the proposed TDM Plan, the VMT generated by the proposed project would result in a less than significant impact.

3) Substantially increase hazards due to a design feature or incompatible uses

The proposed project would include two driveways that would be approximately in the same location as the existing driveways (Chess Drive and Vintage Park Drive) and no roadway geometry changes are proposed along adjacent roadways. As shown on Figure 4.3-4, sight distance at the proposed driveways is expected to be adequate for drivers turning right out of both driveways provided that vegetation within the sight triangles is pruned to maintain clear sight lines. However, both inbound and outbound left turns at the Chess Drive driveway are potentially hazardous due to roadway curvature and conflicts with vehicles entering the neighboring commercial uses. Except for the potentially hazardous inbound and outbound movement at the Chess Drive driveway, the proposed project is not expected to result in a substantial increase to hazards.

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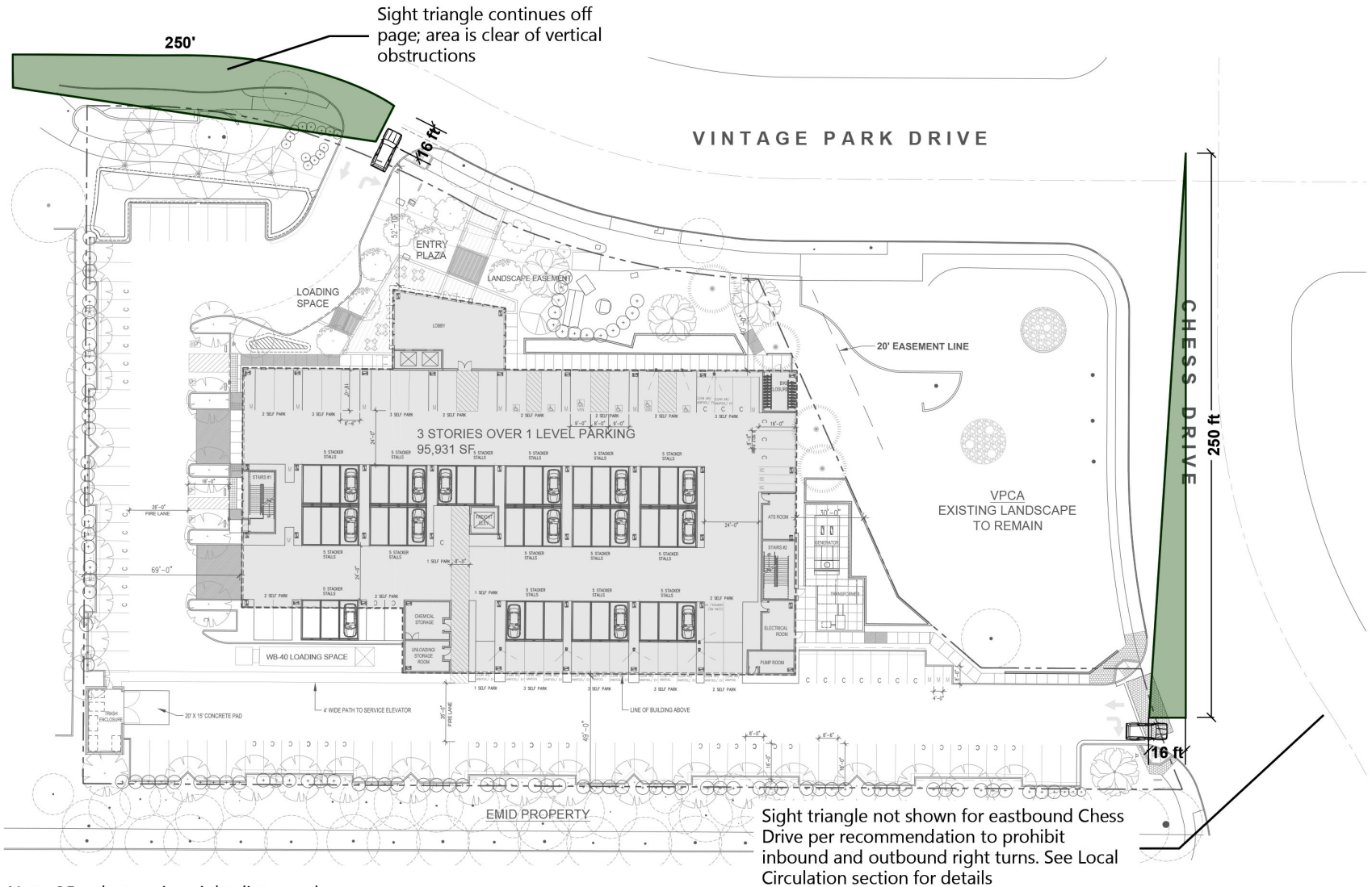

Note: 35mph stopping sight distance shown.

LSA

FIGURE 4.3-4

NOT TO SCALE

N

388 Vintage Park Drive Project EIR
Recommended Driveway Sight Distance

SOURCE: Fehr & Peers, December 14, 2021

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Impact TRA-1: Development of the proposed project would worsen an existing hazardous geometric design feature. (S).

Implementation of the proposed project would result in both inbound and outbound left turns at the project's Chess Drive driveway. Due to the existing roadway geometry, these turning movements are potentially hazardous.

Mitigation Measure TRA-1: Prior to the issuance of a building permit, the project sponsor shall revise the project plans to show either: (1) signage, markings, hardscape, or other suitable treatments to prohibit both inbound and outbound left turns at the existing Chess Drive driveway; or (2) roadway improvements with side-by-side center left turn lanes on Chess Drive that are separated by a hardscape median. A suggested conceptual configuration is shown in Figure 4.3-5 of the Draft EIR.

Implementation of Mitigation Measure TRA-1 would convert outbound movements at the Chess Drive driveway to right-out only. This modification would match the driveway across the street and reduce conflicting movements in a substandard two-way left-turn lane. Therefore, implementation of Mitigation Measure TRA-1 would reduce this impact to a less-than-significant level.

4) Result in inadequate emergency access

Vehicle trips generated by the proposed project would represent a very small percentage of overall daily and peak hour traffic on roadways and freeways in Foster City. During the PM peak hour, the proposed project would generate 85 vehicle trips which would be distributed to study intersections. Project-added vehicle trips represent less than 2 percent of entering volumes at study intersections during the PM peak hour. The proposed project does not include features that would alter emergency vehicle access routes or roadway facilities; fire and police vehicles would continue to have access to all facilities around the entire city. Upon construction, emergency vehicles would have full access to the project site. Therefore, the proposed project would not result in inadequate emergency access and impacts to emergency vehicle access would be less than significant.

4.3.2.4 Cumulative Impacts

This section discusses potential cumulative impacts to the transportation and circulation network in the study area. As summarized in this section, the proposed project, in combination with cumulative projects, would have less than significant impacts with respect to conflicts with applicable plans, VMT, hazards, and emergency access.

Conflicts with Applicable Plans, Ordinances, or Policies. Future development would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to transportation and circulation. The City, throughout the 2025 buildout horizon, would implement the General Plan programs that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.

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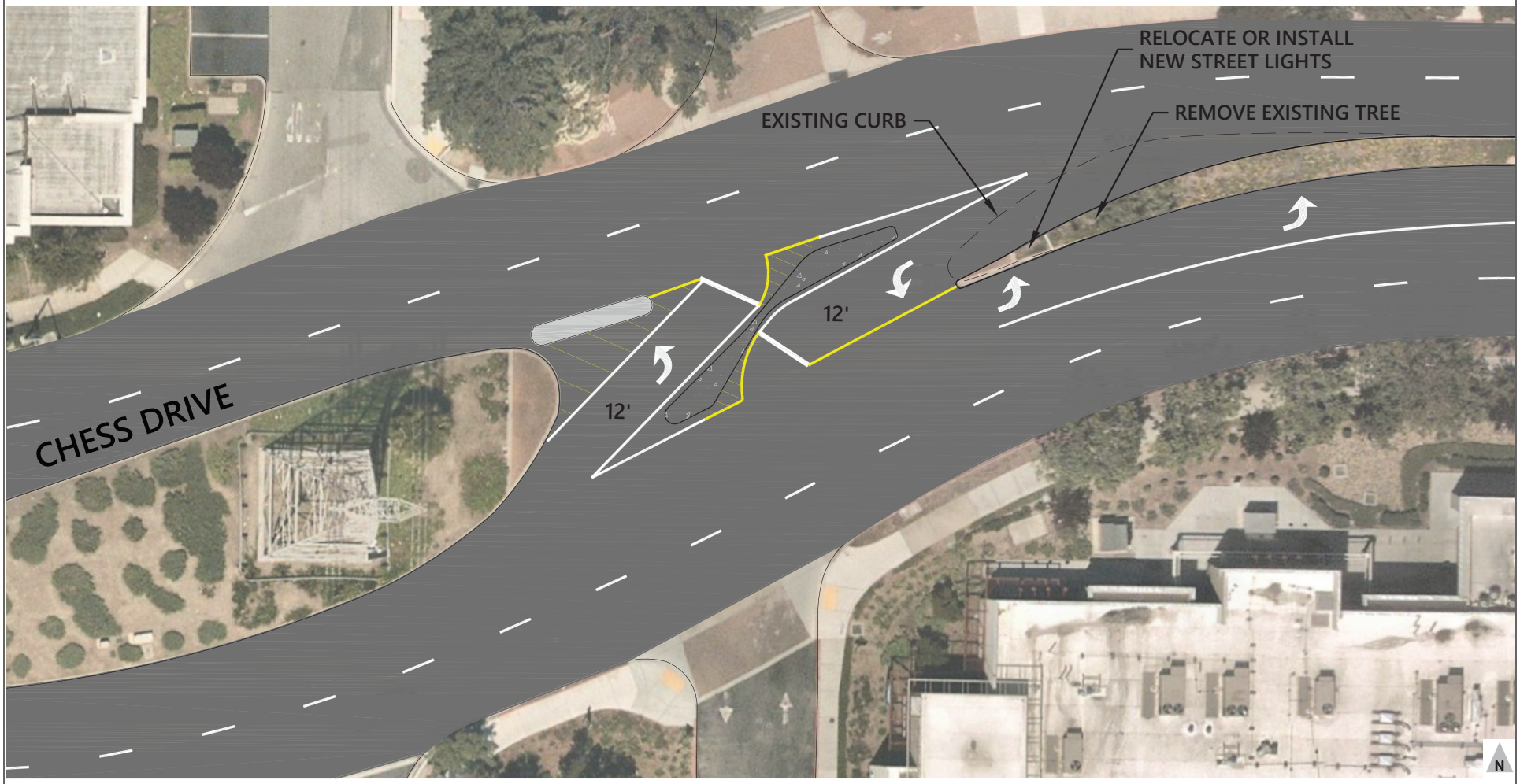

LSA

FIGURE 4.3-5

NOT TO SCALE N

388 Vintage Park Drive Project EIR
Recommended Chess Drive Roadway Configuration

SOURCE: Fehr & Peers, October 2021

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Therefore, for these reasons, the proposed project, in combination with cumulative projects, would have a less than significant cumulative impact with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Vehicle Miles Traveled. Consistent with the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA, a project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." A project that falls below an efficiency-based threshold that aligns with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. The proposed project would generate less VMT compared to the existing countywide VMT, and, therefore, would be below the City's efficiency-based threshold. For these reasons, the proposed project, in combination with cumulative projects, would have a less than significant cumulative impact with respect to VMT.

Hazards or Incompatible Uses. Overall, cumulative land use development and transportation projects would promote accessibility for people walking to and through the site by conforming to General Plan policies and Zoning regulations, and by adhering to planning principles that emphasize providing convenient connections and safe routes for people walking, bicycling, driving, and taking transit. Additionally, as with current practice, projects would be designed and reviewed in accordance with the City's Public Works Department requirements and the department would provide oversight engineering review to ensure that the project is constructed according to City specifications. As a result, the cumulative projects would not generate activities that would increase hazards due to a design feature or incompatible use. For these reasons, the proposed project, in combination with cumulative projects, would have a less than significant cumulative impact with respect to design features or incompatible uses.

Emergency Access. Future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access. The City, throughout the 2025 buildout horizon, would implement the General Plan programs that require the City's continued coordination with the Foster City Police Department and the San Mateo Consolidated Fire Department to establish circulation standards, adopt an emergency response route map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Furthermore, the implementation of the zoning regulations would help to minimize traffic congestion that could impact emergency access. For these reasons, the proposed project, in combination with cumulative projects, would have a less than significant cumulative impact with respect to emergency access.

4.3.3 Non-CEQA Analysis

4.3.3.1 Intersection Level of Service Analysis

The findings of the intersection LOS compliance analysis are presented in this section for informational purposes. The analysis scope and methodology, analysis scenarios, data collection, and LOS policy standards are detailed in Appendix C of this EIR. As stated above, LOS is no longer a CEQA threshold. However, the City's General Plan Policy LUC-F-1 requires that the TIA also analyze LOS for local planning purposes. The LOS analysis determines whether the project traffic would

cause an intersection's LOS to exceed the City's LOS thresholds or cause either the average delay or average critical delay to exceed the City's intersection delay thresholds under existing and cumulative conditions. These thresholds vary depending on the street classifications as well as whether the intersection is on a State route or not.

Existing Plus Project Conditions. Traffic operations were evaluated at the study intersections under existing conditions plus traffic generated by the proposed project. Table 4.3.E provides the LOS results for the study intersections during the AM and PM peak hours under Existing Plus Project Conditions. As shown, most of the intersections would operate at the same LOS under Existing Plus Project Conditions as compared to Existing Conditions, except the intersection of Chess Drive and the SR-92 westbound ramps during the PM peak hour, which would degrade from LOS D to LOS F.

Table 4.3.E: Existing Plus Project LOS and Delay Results

Intersection	Peak Period	Existing		Existing Plus Project	
		Delay (seconds)	LOS	Delay (seconds)	LOS
Chess Drive/SR-92 Westbound Ramps	AM	17	B	18	B
	PM	41	D	>80	F
Chess Drive/Foster City Boulevard	AM	22	C	23	C
	PM	>80	F	>80	F
Foster City Boulevard/Metro Center Boulevard	AM	32	C	33	C
	PM	66	E	66	E
Metro Center Boulevard/SR-92 Eastbound Ramps	AM	17	B	17	B
	PM	>80	F	>80	F

Source: Fehr & Peers (2021).
Note: Shaded cells indicates an exceedance of the Foster City standard of LOS D.
LOS = level of service
SR-92 = State Route 92

The LOS at Chess Drive/SR-92 westbound ramps would increase from LOS D to LOS F due to the addition of project-generated vehicle trips to the eastbound through movement on Chess Drive, which operates at capacity under existing conditions. Although the number of project trips to this movement is relatively small compared to the overall traffic volumes at this intersection, the additional delay incurred by each additional driver is very high due to the long intersection signal length and the short phase length for the eastbound through movement. Adjusting the signal timing by transferring an additional 3 seconds to the eastbound through movement from the westbound approach would reduce the average delay at this intersection to an acceptable LOS D.

As noted above, changes to LOS are not considered an environmental impact. Additionally, General Plan Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 westbound ramps/Chess Drive. Therefore, the potential for project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and no action on the part of the project is required. Further, this analysis result relies on conservative assumptions for the project trip assignment, where all vehicles traveling to traveling north to East Third Avenue or south on Foster City Boulevard would travel through the study intersections on Chess Drive by exiting to Vintage Park Drive and turning southbound left. Under congested conditions along Chess Drive,

these drivers would choose to take other, less congested routes. As for many destinations, there are multiple routes that a driver could take to reach or depart the project site, and the project-generated vehicle trips would disperse across the roadway network and generate less of an effect compared to what this analysis presents. The City will continue to monitor roadway conditions and signal operations as a part of routine maintenance and would adjust signal timings in the future as traffic conditions warrant.

Cumulative Conditions. This section presents a summary of the Cumulative (2040) Conditions. It includes a description of projects and transportation network changes that are assumed to be included under future Cumulative Conditions and the methodologies used to calculate future year volumes. It also presents the impacts associated with transportation that would result from the project for Cumulative Plus Project Conditions. Cumulative No Project Conditions form the baseline for comparison against the Cumulative Plus Project scenario.

The Cumulative (2040) No Project Conditions include construction of reasonably foreseeable development projects in the area. Table 4.3.F summarizes the projects that are considered reasonable and foreseeable and which are included under Cumulative Conditions.

Table 4.3.F: Cumulative (2040) Development

Project Name	Proposed Land Use
Pilgrim Triton	Construction of 332 dwelling units, 10,000 square feet of retail space, and 35,000 square feet of office space
Gilead Campus Master Plan	Construction of 1,044,000 square feet of office space
Foster Square	Construction of 152 senior dwelling units, 90 assisted living dwelling units, and 30,000 square feet of retail space
Lincoln Centre	Construction of 388,000 square feet of office space and 166,000 square feet of lab space
Charter Square School	Demolition of 58,000 square feet of retail; construction of a 600-student school
Chess Hatch Master Plan	Demolition of 190,000 square feet of office space; construction of 800,000 square feet of office space
Metro Center Hotel	Construction of 83,000 square feet of hotel space

Source: Fehr & Peers (2021).

In addition to development, future roadway improvements that are under consideration by the City are included in Cumulative (2040) No Project Conditions. Under Cumulative (2040) No Project Conditions, the intersection of Foster City Boulevard and Chess Drive would have the following geometry changes: (1) construction of a northbound right-turn lane; (2) construction of a second westbound through lane; (3) lengthening of the northbound left-turn lane; and (4) lengthening of the westbound left-turn lane.

Cumulative (2040) No Project traffic volumes include traffic estimates from the cumulative development projects summarized in Table 4.3.F as well as additional background growth associated with probable future development. Cumulative No Project volumes are based on trip generation for future development projects and distribution patterns included in the Foster City Multi-Project

Traffic Analysis and, as described in the Metro Center Hotel Project EIR,[12] Cumulative No Project volumes are based on Cumulative Plus Project volumes reported in the Metro Center Hotel Project EIR to include the effects of this reasonably foreseeable project. Cumulative Plus Project volumes in this study represent Cumulative No Project volumes plus project trips as described above.

Table 4.3.G provides the LOS results for the study intersections during the AM and PM peak hours under Cumulative (2040) No Project and Cumulative (2040) Plus Project conditions. As shown, all four intersections would continue to operate at unacceptable LOS F with the addition of project trips. However, average delay would not increase significantly with the addition of project trips at any intersection already operating unacceptably. Only the Foster City/Chess Drive intersection in the PM peak hour would increase delay by more than 10 seconds with the addition of project trips for similar reasons described under Existing Plus Project conditions. Similar to Existing Plus Project conditions, changes to LOS are not considered an environmental impact and the City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps/Chess Drive. Therefore, the potential for project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and no action on the part of the project sponsor is required.

Table 4.3.G: Existing Plus Project LOS and Delay Results

Intersection	Peak Period	Cumulative		Cumulative Plus Project	
		Delay (seconds)	LOS	Delay (seconds)	LOS
Chess Drive/SR-92 Westbound Ramps	AM	69	E	72	E
	PM	>80	F	>80	F
Chess Drive/Foster City Boulevard	AM	33	C	33	C
	PM	>80	F	>80	F
Foster City Boulevard/Metro Center Boulevard	AM	59	E	58	E
	PM	>80	F	>80	F
Metro Center Boulevard/SR-92 Eastbound Ramps	AM	48	D	52	D
	PM	>80	F	>80	F

Source: Fehr & Peers (2021).
Note: Shaded cells indicates an exceedance of the Foster City standard of LOS D.
LOS = level of service
SR-92 = State Route 92

4.3.3.2 Parking Assessment

Code Requirements. Chapter 17.62 of the Foster City Municipal Code (FCMC) requires new development projects to provide off-street loading and automobile, bicycle, and motorcycle parking facilities. Table 4.3.H shows these requirements. The proposed project includes 95,931 gross square feet of floor area and therefore would be required to provide 320 automobile parking spaces or an adjusted minimum of 256 stalls. The adjusted minimum accounts for two reductions permitted under the zoning code. First, a maximum 15 percent reduction is permitted with approval of a TDM plan that meets the conditions identified in FCMC Chapter 17.62.060(D)(3). Second, an additional 5

[12] Foster City, City of. 2020. *Metro Center Hotel Project Draft Environmental Impact Report.* State Clearinghouse No. 2019049065. March.

percent reduction is permitted based on credits for providing bicycle and motorcycle spaces as required in FCMC Chapter 17.62.060(D)(4).

Table 4.3.H: Off-Street Parking Requirements

Parking Standard		Required Parking
Automobile Parking		
Research and Development Facilities	1 spaces per 300 square feet of gross floor area	320
	Minimum number of stalls with all available adjustments	256
Motorcycle Parking		
All Commercial/Nonresidential Uses	1 percent of the total number of parking stalls provided	2
Bicycle Parking		
Short-Term	None Required	0
Long-Term	None Required	0

Source: Fehr & Peers (2021).

Parking Supply. The proposed project would include 210 automobile parking spaces, which is 110 stalls fewer than the 320-stall minimum or 46 stalls fewer than the adjusted minimum of 256. Consistent with Zoning Code section 17.62.100(A), the project sponsor may request a variance from the parking requirements. Therefore, provided that the Planning Commission grants the variance for the minimum number of automobile parking spaces, the proposed project would meet the Zoning Ordinance requirements for automobile parking. As shown in Table 4.3.H, the proposed project would be required to provide 2 motorcycle parking spaces. The proposed project would include 14 motorcycle parking spaces and therefore would meet the Zoning Ordinance requirements for automobile parking.

Parking Demand. Parking generation rates from the ITE Parking Generation Manual, 5th Edition, were used to estimate weekday parking demand at the project site by time of day. The Parking Generation Manual collects data on parking occupancy at different sites to estimate the average parking generation rate by land use category by time of day. Using the per employee parking generation rates for General Office (710), the proposed project would be expected to generate a peak hour demand of 179 parking stalls.[13] Based on this analysis, peak parking demand is anticipated to be less than the proposed parking supply.

4.3.3.3 C/CAG Compliance

Per the C/CAG Transportation Demand Management Policy Update Approach,[14] non-residential projects (office, industrial, and institutional) that are considered large projects, generating greater than 500 ADT, are required to develop a TDM plan that could reduce the project-generated ADT by 35 percent based on the vehicle trip reduction values assigned by C/CAG shown in Table 4.3.C. The percentages C/CAG used are for compliance with the countywide congestion management program, and thus do not match the estimated reduction to VMT described above. As shown in Table 4.3.C, the proposed project complies with C/CAG requirements.

13 This includes employee and visitor parking demand.

14 Advanced Mobility Group. 2021. *C/CAG Transportation Demand Management Policy Update Approach.* March.

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4.4 AIR QUALITY

This section has been prepared using methodologies and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).[1] In keeping with these guidelines, this section describes existing air quality, impacts of the proposed project on local carbon monoxide (CO) levels, impacts of vehicular emissions that have regional effects, and exposure of sensitive receptors to toxic air contaminants (TACs). Standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant air quality impacts are identified, where appropriate. Air quality modeling data are included in Appendix D.

4.4.1 Setting

The following discussion provides an overview of existing air quality conditions in the region and in the city. Ambient air quality standards and the regulatory framework are summarized and climate, air quality conditions, and typical air pollutant types and sources are also described.

4.4.1.1 Air Pollutants and Health Effects

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

The primary pollutants of concern in the project area are O_3, CO, and suspended particulate matter. Significance thresholds established by an air district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants.

Because of the conservative nature of the significance thresholds, and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as O_3 precursors such as nitrogen oxides (NO_x) and reactive organic gases (ROG).

Further, by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself result in nonattainment of ambient air quality standards. Instead, a project's

[1] Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act, Air Quality Guidelines*. May.

individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, the air districts have considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise. These populations are referred to as sensitive receptors.

Air pollutants and their health effects, and other air pollution-related considerations are summarized in Table 4.4.A and are described in more detail below.

Ozone. O_3 is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as O_3 precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the San Francisco Bay Area, automobiles are the single largest source of O_3 precursors. O_3 is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with O_3 production through the photochemical reaction process. O_3 causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited—it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Table 4.4.A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	• Precursor sources:[a] motor vehicles, industrial emissions, and consumer products.	• Respiratory symptoms. • Worsening of lung disease leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter ($PM_{2.5}$)	• Cars and trucks (especially diesels). • Fireplaces, woodstoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease. • Asthma-related emergency room visits. • Increased symptoms, increased inhaler usage.
Particulate Matter Less than 10 Microns in Aerodynamic Diameter (PM_{10})	• Cars and trucks (especially diesels). • Fireplaces, woodstoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death and hospitalization, primarily for worsening of respiratory disease. • Reduced visibility and material soiling.
Nitrogen Oxides (NO_x)	• Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Lung irritation. • Enhanced allergic responses.
Carbon Monoxide (CO)	• Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Chest pain in patients with heart disease. • Headache. • Light-headedness. • Reduced mental alertness.
Sulfur Oxides (SO_x)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits.
Lead (Pb)	• Contaminated soil.	• Impaired mental functioning in children. • Learning disabilities in children. • Brain and kidney damage.
Toxic Air Contaminants (TACs)	• Cars and trucks (especially diesels). • Industrial sources, such as chrome platers. • Neighborhood businesses, such as dry cleaners and service stations. • Building materials and products.	• Cancer. • Reproductive and developmental effects. • Neurological effects.

Source: California Air Resources Board (2018).

[a] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Particulate matter is categorized in two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulates through tailpipe emissions as well as brake pad, tire wear, and entrained road dust. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the California Air Resources Board (CARB), studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children.[2] Statewide attainment of particulate matter standards could reduce premature deaths, hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide. NO_2 is a reddish-brown gas that forms as a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to O_3 formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high O_3 levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

Lead. Pb is a metal found naturally in the environment as well as in manufactured products. The major sources of Pb emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest levels of Pb in air are generally found near Pb smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient Pb concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the Pb content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of USEPA regulatory efforts to remove Pb from gasoline, emissions of Pb from the transportation sector and levels of Pb in the air decreased dramatically.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde,

[2] California Air Resources Board (CARB). 2020a. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10})*. Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed August 2021).

and hydrogen sulfide. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the USEPA and the CARB. In 1998, the CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The CARB has completed a risk management process that identified potential cancer risks for a range of activities and land uses that are characterized by use of diesel-fueled engines.[3] High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

The BAAQMD regulates TACs using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide a quantitative estimate of health risks.[4] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. Monitoring data and emissions inventories of TACs help the BAAQMD determine health risk to Bay Area residents.

Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for a substantial portion of the ambient background risk in the Bay Area.[5] According to the BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of Phase 2 reformulated gasoline. Due to this reduction, the calculated average cancer risk based on monitoring results has also been reduced.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in urban parts of the Bay Area, while construction equipment typically operates for a limited time at various locations. As a result, the readily identifiable locations

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3 CARB. 2000b. *Fact Sheet – California's Plan to Reduce Diesel Particulate Matter Emissions*. October. Website: www.arb.ca.gov/diesel/factsheets/rrpfactsheet.pdf (accessed August 2021).

4 In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

5 BAAQMD. 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1.* May. Website: www.baaqmd.gov/research-and-data/air-toxics/annual-report (accessed August 2021).

where diesel particulate matter is emitted in the Bay Area include high-traffic roadways and other areas with substantial truck traffic.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined.[6] The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra low-sulfur diesel fuel—a step already implemented—and cleaner-burning diesel engines.[7] The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB anticipates that by 2020, average statewide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of the Diesel Risk Reduction Plan, meaning that the statewide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000. It is likely that the Bay Area cancer risk from diesel particulate matter will decrease by a similar factor by 2020.

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust from diesel, gasoline, and other combustion engines is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

4.4.1.2 National and State Ambient Air Quality Standards

Both State and federal governments have established health-based Ambient Air Quality Standards for criteria air pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health.

Both the USEPA and the CARB have established ambient air quality standards for the following common pollutants: CO, O_3, NO_2, SO_2, Pb, and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. These ambient air quality standards are levels of contaminants that avoid specific adverse health effects associated with each pollutant.

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6 BAAQMD. 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1.* May. Website: www.baaqmd.gov/research-and-data/air-toxics/annual-report (accessed August 2021).

7 CARB. 2000c. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. Prepared by the Stationary Source Division and Mobile Source Control Division. October. Website: www.arb.ca.gov/diesel/documents/rrpFinal.pdf (accessed August 2021).

Federal standards include both primary and secondary standards. Primary standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.[8] Table 4.4.B lists State and federal standards for the criteria air pollutants.

4.4.1.3 Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in the Foster City area.

Regional and Local Air Quality. Foster City is in the middle of the San Francisco Bay Area Air Basin (Air Basin), a large, shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist. One is through the strait known as the Golden Gate, a direct outlet to the Pacific Ocean. The second extends to the northeast, along the west delta region of the Sacramento and San Joaquin rivers.

The city is within the jurisdiction of the BAAQMD, which regulates air quality in the Bay Area. Air quality conditions in the Bay Area have improved significantly since the BAAQMD's creation in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither State nor national ambient air quality standards of the following chemicals have been violated in recent decades: NO_2, SO_2, sulfates, lead, hydrogen sulfide, and vinyl chloride. Those exceedances of air quality standards that do occur primarily happen during meteorological conditions conducive to high pollution levels, such as cold, windless nights or hot, sunny summer afternoons.

O_3 levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the BAAQMD and other regional, State and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the Bay Area still exceeds the State standard for 1-hour O_3 as well as the State and federal 8-hour standards. Levels of PM_{10} often exceed State standards, and the area is considered a nonattainment area for this pollutant relative to the State standards. The Bay Area is an unclassified area for the federal PM_{10} standard.

No exceedances of the State or federal CO standards have been recorded at any of the region's monitoring stations since 1991. The Bay Area is currently considered a maintenance area for State and federal CO standards.

[8] United States Environmental Protection Agency. 2017. Criteria Air Pollutants. October. Website: www.epa.gov/criteria-air-pollutants (accessed August 2021).

Table 4.4.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Ozone (O_3)[h]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[i]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[i]	24-Hour	–		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[j]	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)	–	
Lead (Pb)[l,m]	30-Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average [i]	–		0.15 µg/m^3		
Sulfur Dioxide (SO_2)[k]	24-Hour	0.04 ppm (105 µg/m3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)[k]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[k]	–	
Visibility-Reducing Particles [l]	8-Hour	See footnote [n]	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [j]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: Ambient Air Quality Standards (California Air Resources Board 2016).

Table notes continued on the following page

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, 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 California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three 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 µg/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 three years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] To attain the 1-hour national standard, the three-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[k] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the three-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[l] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

Local Climate and Air Quality. Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Two meteorological factors affect air quality in Foster City: wind and temperature. Winds affect the direction of transport of any air pollution emissions and wind also controls the volume of air into which the pollution mixes in a given period of time. While winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

Foster City is in San Mateo County, which lies in the middle of the San Francisco Peninsula, south of San Francisco, and north of Santa Clara and Santa Cruz counties. San Mateo County is bounded by the Pacific Ocean to the west and San Francisco Bay to the east. Cool, foggy weather is prevalent along the western coast of the peninsula, particularly during the summer. Summertime average daily temperatures are moderate along the west coast and warm in the county's east side. In the winter, average daily temperatures across the county range from mild to moderate. Winds are mild, with the highest wind speeds focused along the western coast. Rainfall averages about 20 to 25 inches per year at lower elevations and up to 36 inches in the Santa Cruz Mountains.[9]

O_3 and fine particle pollution, or $PM_{2.5}$, are the major regional air pollutants of concern in the Bay Area. O_3 is primarily a problem in the summer, and fine particle pollution in the winter.[10]

In San Mateo County, O_3 almost never exceeds health standards, and $PM_{2.5}$ exceeds the national standard only on about 1 day each year. San Mateo County frequently receives fresh marine air from the Pacific Ocean, which passes over the coastal hills. In winter, $PM_{2.5}$ may be transported into San Mateo County from other parts of the Bay Area, adding to wood smoke, which may lead to elevated concentrations, but these are rarely high enough to exceed health standards.[11]

Air Quality Monitoring Results. Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and State air quality regulating agencies. The USEPA uses ambient air data collected at permanent monitoring stations to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary National Ambient Air Quality Standards (NAAQS). Attainment areas are required to maintain their status through moderate, yet effective, air quality maintenance plans. Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the state on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data. The San Francisco Bay Area Air Basin's attainment status for each criteria pollutant is listed in Table 4.4.C.

9 BAAQMD. 2019. *Climate and Air Quality in San Mateo County.* February 14, 2019. Website: www.baaqmd.gov/about-the-air-district/in-your-community/san-mateo-county (accessed August 2021).

10 Ibid.

11 Ibid.

Table 4.4.C: San Francisco Bay Area Basin Attainment Status

	Averaging Time	California Standards [a]		National Standards [b]	
		Concentration	Attainment Status	Concentration [c]	Attainment Status
Ozone (O_3)	8-Hour	0.070 ppm (137µg/m^3)	Nonattainment [l]	0.070 ppm	Nonattainment [d]
	1-Hour	0.09 ppm (180 µg/m^3)	Nonattainment	Not Applicable	[e]
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment [f]
	1-Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm (339 µg/m^3)	Attainment	0.100 ppm [k]	[k]
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Not Applicable	0.053 ppm (100 µg/m^3)	Attainment
Sulfur Dioxide (SO_2) [l]	24-Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	[l]
	1-Hour	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	[l]
	Annual Arithmetic Mean	Not Applicable	Not Applicable	0.030 ppm (80 µg/m^3)	[l]
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	Nonattainment [g]	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	Nonattainment [g]	15 µg/m^3 [o]	Unclassified/ Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3 [j]	Nonattainment
Sulfates	24-Hour	25 µg/m^3	Attainment	Not Applicable	Not Applicable
Lead (Pb) [m]	30-Day Average	1.5 µg/m^3	Not Applicable	Not Applicable	Attainment
	Calendar Quarter	Not Applicable	Not Applicable	1.5 µg/m^3	Attainment
	Rolling 3-Month Average [n]	Not Applicable	Not Applicable	0.15 µg/m^3	[n]
Hydrogen Sulfide	1-Hour	0.010 ppm (26 µg/m^3)	Unclassified	Not Applicable	Not Applicable
Vinyl Chloride (chloroethene)	24-Hour	0.010 ppm (26 µg/m^3)	No Information Available	Not Applicable	Not Applicable
Visibility Reducing Particles	8-Hour (10:00 to 18:00 PST)	[h]	Unclassified	Not Applicable	Not Applicable

Source: Bay Area Attainment Status (Bay Area Air Quality Management District 2017b).

Table notes continued on the following page

[a] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

[b] National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the three-year average of the 4th highest daily concentrations is 0.070 ppm (70 ppb) or less. The 24-hour PM_{10} standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the three-year average of 98th percentiles is less than 35 µg/m^3.
Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the three-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the three-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.

[c] National air quality standards are set by USEPA at levels determined to be protective of public health with an adequate margin of safety.

[d] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. USEPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.

[e] The national 1-hour ozone standard was revoked by USEPA on June 15, 2005.

[f] In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.

[g] In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.

[h] Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

[i] The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005, and became effective on May 17, 2006.

[j] On January 9, 2013, USEPA issued a final rule to determine that the Bay Area attains the 24-hour $PM_{2.5}$ national standard. This USEPA rule suspends key SIP requirements as long as monitoring data continue to show that the Bay Area attains the standard. Despite this USEPA action, the Bay Area will continue to be designated as “non-attainment” for the national 24-hour $PM_{2.5}$ standard until such time as the Air District submits a “redesignation request” and a “maintenance plan” to USEPA and USEPA approves the proposed redesignation.

[k] To attain this standard, the three-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). The USEPA expects to make a designation for the Bay Area by the end of 2017.

[l] On June 2, 2010, the USEPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the three-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030-ppm annual and 0.14-ppm 24-hour SO_2 NAAQS however must continue to be used until one year following USEPA initial designations of the new 1-hour SO_2 NAAQS. USEPA expects to make designation for the Bay Area by the end of 2017.

[m] CARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure below which there are no adverse health effects determined.

[n] National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

[o] In December 2012, USEPA strengthened the annual $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter (µg/m^3). In December 2014, USEPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated “unclassifiable/attainment” must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppm = parts per million
USEPA = United States Environmental Protection Agency

The CARB and the USEPA maintain ambient air quality monitoring stations within California. The air quality monitoring station closest to the project site is the 897 Barron Avenue monitoring station in Redwood City, which monitors criteria air pollutant data.[12] The air quality trends from this station are used to represent the ambient air quality in the project area. Table 4.4.D shows ambient air quality in the project area from 2018 to 2020 (the most recent available period). The pollutants monitored were CO, O_3, $PM_{2.5}$, and NO_2. Air quality trends for PM_{10} and SO_2 are not monitored in San Mateo County; therefore, the air quality trends for PM_{10} and SO_2 are from the 156B Jackson Street monitoring station in San Jose.

Pollutant monitoring results indicate that air quality in the San Mateo County area has generally been good. As indicated in the monitoring results, 1-hour O_3 concentrations exceeded the State standard in 2020 and the 8-hour O_3 concentrations exceeded the State and federal standards twice in 2019 and once in 2020. In addition, the federal PM_{10} standard was exceeded four times in 2018 and 2019 and an unknown number of times in 2020. In addition, the federal $PM_{2.5}$ standard was exceeded 13 times in 2018 and an unknown number of times in 2020. The CO, NO_2, and SO_2 standards were not exceeded in this area during the 3-year period.

In addition, the Office of Environmental Health Hazard Assessment, on behalf of the California Environmental Protection Agency, released Version 3.0 of the California Communities Environmental Health Screening Tool (CalEnviroScreen) in January 2017. CalEnviroScreen identifies California communities by census tract that are disproportionately burdened by, and vulnerable to, multiple sources of pollution. Pollution Burden scores for each census tract derive from the average percentiles of the seven Exposure indicators (O_3 and $PM_{2.5}$ concentrations, diesel PM emissions, drinking water contaminants, pesticide use, toxic releases from facilities, and traffic density) and the five Environmental Effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities). According to the CalEnviroScreen 3.0 Map,[13] the project site has a pollution burden percentile of 39. Other portions of the Bay Area have pollution burdens ranging from the lowest scores of between 1 and 10 percent and the second highest score of between 81 and 90 percent. In addition, according to the SB 535 Disadvantaged Communities Map,[14] the project site is not designated as an SB 535 disadvantaged community.

12 CARB gathers ambient air quality data for the State of California and ensures the quality of these data. CARB provides ambient air quality monitoring sites throughout California's counties and air basins.

13 Office of Environmental Health Hazard Assessment. 2017. *CalEnviroScreen 3.0.* Website: oehha.ca.gov/calenviroscreen/report/calenviroscreen-30 (accessed August 2021).

14 OEHHA. 2018. *SB 535 Disadvantaged Communities using CalEnviroScreen 3.0 results.* June. Website: oehha.maps.arcgis.com/apps/View/index.html?appid=c3e4e4e1d115468390cf61d9db83efc4 (accessed August 2021).

Table 4.4.D: Ambient Air Quality at the 897 Barron Avenue, Redwood City Monitoring Station

Pollutant	Standard	2018	2019	2020
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)		2.5	2.0	2.1
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.7	1.1	1.5
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)		0.067	0.083	0.098
Number of days exceeded:	State: > 0.09 ppm	0	0	ND
Maximum 8-hour concentration (ppm)		0.050	0.077	0.077
Number of days exceeded:	State: > 0.07 ppm	0	2	1
	Federal: > 0.07 ppm	0	2	1
Coarse Particulates (PM_{10})[1]				
Maximum 24-hour concentration (µg/m^3)		121.8	77.1	134.0
Number of days exceeded:	State: > 50 µg/m^3	4	4	ND
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		23.1	19.1	ND
Exceeded for the year:	State: > 20 µg/m^3	Yes	No	ND
	Federal: > 50 µg/m^3	No	No	ND
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hour concentration (µg/m^3)		120.9	29.5	124.1
Number of days exceeded:	Federal: > 35 µg/m^3	13	0	ND
Annual arithmetic average concentration (µg/m^3)		10.5	7.0	9.8
Exceeded for the year:	State: > 12 µg/m^3	No	No	No
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)		0.077	0.055	0.046
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.010	0.009	0.008
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)[a]				
Maximum 1-hour concentration (ppm)		0.0069	0.0145	0.0029
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0.0011	0.0015	0.0008
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.0001	0.0001	0.0002
Exceeded for the year:	Federal: > 0.030 ppm	No	0	0

Source: California Air Resources Board and U. S. Environmental Protection Agency (2021).

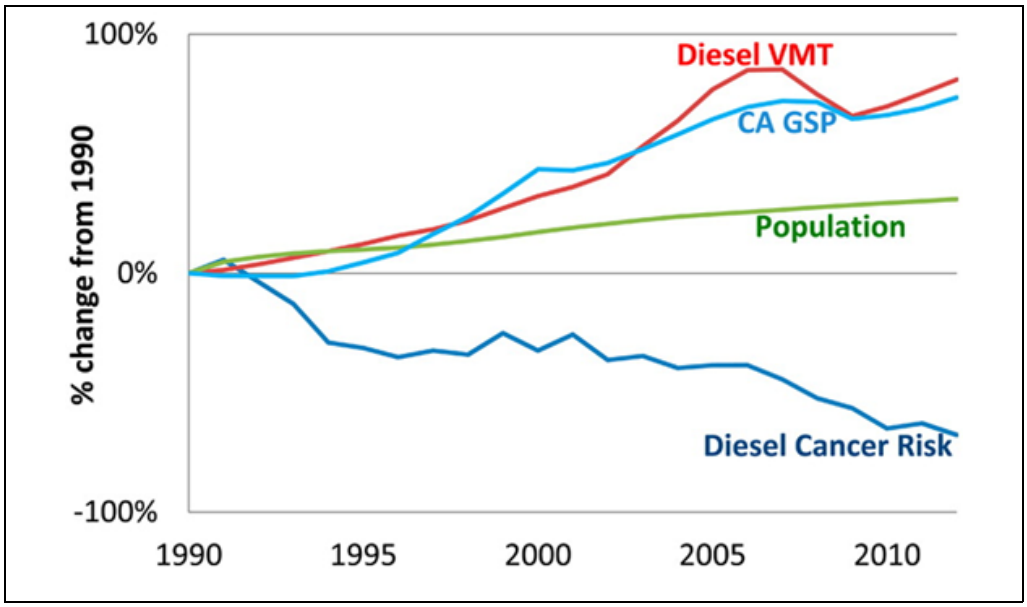
[a] Data taken at the 156B Jackson Street air quality monitoring station in San Jose.

µg/m^3 = micrograms per cubic meter

ND = No data. There were insufficient (or no) data results to determine the value.

ppm = parts per million

Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.[15] Concentrations of diesel particulate matter, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in State population and an 81 percent increase in diesel vehicle miles traveled, as shown on Figure 4.4-1. The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxics controls are likely to continue.



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper, Ralph, et al. 2015).

Figure 4.4-1: California Population, Gross State Product (GSP), Diesel Cancer Risk, and Diesel Vehicle Miles Traveled (VMT) Regulatory Context

The USEPA and the CARB regulate direct emissions from motor vehicles. The BAAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

4.4.1.4 Regulatory Framework

The BAAQMD is primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as for monitoring ambient pollutant concentrations. BAAQMD's jurisdiction encompasses seven counties – Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa—and portions of

[15] Propper, Ralph, et al. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. Website: pubs.acs.org/doi/full/10.1021/acs.est.5b02766 (accessed August 2021).

Solano and Sonoma counties. The USEPA and the CARB regulate direct emissions from motor vehicles.

The following discusses the applicable federal, State, regional, and local regulatory framework.

Federal Regulations. At the federal level, the USEPA has been charged with implementing national air quality programs. USEPA air quality mandates are drawn primarily from the federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required USEPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. USEPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAA and determine if implementation will achieve air quality goals. If the USEPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area, which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions on transportation funding and stationary air pollution sources in the air basin.

The USEPA is also required to develop National Emission Standards for Hazardous Air Pollutants, which are defined as those which may reasonably be anticipated to result in increased deaths or serious illness, and which are not already regulated. An independent science advisory board reviews the health and exposure analyses conducted by the USEPA on suspected hazardous pollutants prior to regulatory development.

State Regulations. The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires that all air districts in the State achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources, and provides districts with the authority to regulate indirect sources.

The CARB is also primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. The CARB combines these data and submits the completed SIP to USEPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for mobile sources, consumer products, small utility engines, and off-road vehicles. The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel

particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel—a step already implemented—and cleaner-burning diesel engines.[16]

Because of the robust evidence relating proximity to roadways and a range of non-cancer and cancer health effects, the CARB also created guidance for avoiding air quality conflicts in land use planning in its *Air Quality and Land Use Handbook: A Community Health Perspective*.[17] In its guidance, the CARB advises that new sensitive uses (e.g., residences, schools, day care centers, playgrounds, and hospitals) not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day, or within 1,000 feet of a distribution center (warehouse) that accommodates more than 100 trucks or more than 90 refrigerator trucks per day.

The CARB guidance suggests that the use of these guidelines be customized for individual land use decisions and take into account the context of proposed development projects. The Air Quality and Land Use Handbook specifically states that these recommendations are advisory and acknowledges that land use agencies must balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

Regional Regulations. The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan. The Clean Air Plan guides the region's air quality planning efforts to attain the CAAQS.[18] The BAAQMD 2017 Clean Air Plan, which was adopted on April 19, 2017, by the BAAQMD Board of Directors, is the current Clean Air Plan which contains district-wide control measures to reduce O_3 precursor emissions (e.g., ROG and NO_x), particulate matter and greenhouse gas (GHG) emissions.

The Bay Area 2017 Clean Air Plan:

- Describes the BAAQMD plan towards attaining all State and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities

16 California Air Resources Board. 2000b, op. cit.

17 California Environmental Protection Agency and California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April. Website: www.arb.ca.gov/ch/handbook.pdf (accessed August 2021).

18 BAAQMD. 2017c. *Final 2017 Clean Air Plan*. April 19. Website: www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en (accessed August 2021).

- Defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050

- Provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve GHG reduction targets

- Includes a wide range of control measures designed to decrease emissions of air pollutants that are most harmful to Bay Area residents, such as particulate matter, O_3, and toxic air contaminants; to reduce emissions of methane and other "Super-GHGs" that are potent climate pollutants in the near term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion

BAAQMD CARE Program. The Community Air Risk Evaluation (CARE) program began in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that include an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TACs, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and a high density of sensitive populations. Risk reduction activities associated with the CARE program focus on the most at-risk communities in the Bay Area.

For commercial and industrial sources, the BAAQMD regulates TACs using a risk-based approach. This approach uses a health risk assessment (HRA) to determine what sources and pollutants to control as well as the degree of control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances to provide a quantitative estimate of health risks.[19] As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. The BAAQMD has identified seven impacted communities;[20] Foster City has not been identified as an affected community.[21]

[19] In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

[20] The seven impacted communities include Richmond/San Pablo; eastern San Francisco, including Treasure Island; San Jose; western Alameda County; Concord, Vallejo; and Pittsburg/Antioch.

[21] BAAQMD. 2014. *Community Air Risk Evaluation Program*. August 20. Website: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program (accessed August 2021).

BAAQMD CEQA Air Quality Guidelines. The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions.

In June 2010, the BAAQMD adopted updated draft CEQA Air Quality Guidelines and finalized them in May 2011. These guidelines superseded previously adopted agency air quality guidelines of 1999 and were intended to advise lead agencies on how to evaluate potential air quality impacts.

In May 2017, the BAAQMD published an updated version of the CEQA Guidelines. The BAAQMD CEQA Guidelines include thresholds to evaluate project impacts to protectively evaluate the potential effects of the project on air quality. These protective thresholds are appropriate in the context of the size, scale, and location of the proposed project.

City of Foster City. The City of Foster City (City) addresses air quality in the Conservation Element of the General Plan.[22] In addition, the City has standard Conditions of Approval (COAs) that would apply to the proposed project.

Foster City General Plan. The Conservation Element sets goals, policies, and programs that work to reduce the impact of development on local air quality. The following programs are applicable to the proposed project.

- **Program C-j: Air Quality Impacts.** Review proposed projects for their potential to affect air quality conditions.
- **Program C-k: Air Pollution Sensitive Land Uses.** To the extent feasible, separate air pollution sensitive land uses from sources of air pollution.
- **Program C-l TSM: Ordinance Enforcement.** Enforce the City's Transportation Systems Management (TSM) Ordinance for existing and proposed businesses with more than 25 employees to promote use of SamTrans, vanpools, carpools and flextime working hours for employees.
- **Program C-m: Reduction in Automobile Trips.** Encourage Foster City residents and employees to consolidate and/or eliminate motor vehicle trips as often as possible.
- **Program C-n: Coordination with Other Agencies in Air Quality Improvements.** Coordinate review of large projects with local, regional and state agencies to improve air quality.

[22] Foster City, City of. 2003. *City of Foster City General Plan, Conservation Element*. May.

- **Program C-o: Title 24.** Construct new buildings and additions to energy efficiency standards according to Title 24 of the California State Model Code.

Foster City Standard Conditions of Approval. The following COAs adopted by the City require implementation of dust controls during project construction:

- **COA 9.5:** The following controls shall be implemented at all construction sites within the project to control dust and/or mud production and fugitive dust.
    - Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing sensitive land uses shall be kept damp at all times, or shall be treated with nontoxic stabilizers to control dust;
    - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard;
    - Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
    - Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; and
    - Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
    - Blowing dust shall be reduced by timing construction activities so that paving and building construction begin as soon as possible after completion of grading, and by landscaping disturbed soils as soon as possible.
    - Water trucks shall be present and in use at the construction site.
    - All portions of the site subject to blowing dust shall be watered as often as deemed necessary by the City in order to insure proper control of blowing dust for the duration of the project.
    - Watering on public streets shall not occur.
    - All vehicle speeds on unpaved roads shall be limited to 15 mph.
    - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
    - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne

toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Streets will be cleaned by street sweepers or by hand as often as deemed necessary by the City Engineer.
- Watering associated with on-site construction activity shall take place between the hours of 8:00 a.m. and 7:00 p.m. and shall include at least one late-afternoon watering to minimize the effects of blowing dust.
- All public streets and medians soiled or littered due to this construction activity shall be cleaned and swept on a daily basis during the workweek to the satisfaction of the City.
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

4.4.2 Impacts and Mitigation Measures

This section provides an assessment of the potential impacts related to air quality that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.4.2.1 Significance Criteria

The project would result in a significant impact related to air quality if it would:

1) Conflict with or obstruct implementation of the applicable air quality plan;

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard;

3) Expose sensitive receptors to substantial pollutant concentrations; or

4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

According to the BAAQMD CEQA Guidelines, to meet air quality standards for criteria air pollutant and air precursor impacts, the proposed project must not:

- Contribute to CO concentrations exceeding the State ambient air quality standards;
- Generate average daily construction emissions of ROG, NO_x or $PM_{2.5}$ (exhaust) greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day; or
- Generate operational emissions of ROG, NO_x or $PM_{2.5}$ of greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

4.4.2.2 Project Impacts

The following section discusses the potential air quality impacts associated with implementation of the proposed project.

1) Conflict with or obstruct implementation of the applicable air quality plan

The applicable air quality plan is the BAAQMD's 2017 Bay Area Clean Air Plan (Clean Air Plan).[23] The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce GHG emissions to protect the climate. Consistency with the Clean Air Plan can be determined if a project (1) supports the goals of the Clean Air Plan, (2) includes applicable control measures from the Clean Air Plan, and (3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan. Following is an evaluation of the proposed project's consistency with each of these criteria and, as discussed below, the proposed project would not conflict with the Clean Air Plan goals or control measures and would not obstruct its implementation. Therefore, this impact would be less than significant.

Clean Air Plan Goals. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed in more detail in the analysis below, implementation of the proposed project would result in less-than-significant operation-period emissions and, with implementation of COA 9.5, the project would result in less-than-significant construction-period emissions. Therefore, the project would not conflict with the Clean Air Plan goals.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures,

[23] Bay Area Air Quality Management District. 2017c. *Clean Air Plan.* April 19.

Waste Management Measures, Water Measures, and Super-GHG Pollutants Measures. The following discusses the proposed project's consistency with each of these strategies.

Stationary Source Control Measures. The Stationary Source Measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by BAAQMD Permit and Inspection programs. Because the proposed project would not include any such stationary sources, the Stationary Source Measures of the Clean Air Plan are not applicable to the project.

Transportation Control Measures. The BAAQMD identifies Transportation Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed project would develop life science office uses that would locate employees near existing office, commercial, hotel, light industrial, residential, park, and institutional uses, reducing the demand for travel by single occupancy vehicles. The proposed project would also develop a Transportation Demand Management (TDM) plan to provide trip reduction measures and reduce vehicle traffic in and around the project site (refer to Section 4.3, Transportation). In addition, public transit facilities serve the project area and the proposed project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles. The proposed project would also include electric vehicle (EV) parking. Therefore, the project would promote BAAQMD initiatives to reduce vehicle trips and vehicle miles traveled and would increase the use of alternate means of transportation.

Energy Control Measures. The Clean Air Plan also includes Energy Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG intensive fuel sources for electricity generation. Because these measures apply to electrical utility providers and local government agencies (and not individual projects), the Energy Control Measures of the Clean Air Plan are not applicable to the proposed project. However, the proposed project would comply with current California Green Building Standards Code (CALGreen) guidelines and would be designed to achieve Leadership in Energy and Environmental Design (LEED) Silver equivalence. The proposed project would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, and advanced water and energy metering. Therefore, the proposed project would comply with applicable Energy Measures.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best GHG control practices and policies. Therefore, the Building Control Measures of the Clean Air Plan are not applicable to the proposed project. However, the proposed project would comply with CALGreen standards.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Because the project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan are not applicable to the project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to adopt ordinances that promote urban tree plantings. Because the proposed project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the project.

Waste Management Control Measures. The Waste Management Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Because these measures apply to POTWs and local government agencies (and not individual projects), the Water Control Measures are not applicable to the proposed project.

Super GHG Control Measures. Super GHGs include GHGs with very high global-warming potential, such as methane, black carbon, and fluorinated gases. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Because these measures do not apply to individual projects, the Super-GHG Control Measures are not applicable to the proposed project.

Clean Air Plan Implementation. As discussed above, the proposed project would generally implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures. Therefore, the proposed project would not disrupt or hinder implementation of a control measure from the current Clean Air Plan and this impact would be less than significant.

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard

The BAAQMD is currently designated as a nonattainment area for State and national O_3 standards and national particulate matter ambient air quality standards. BAAQMD nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air

pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

The following sections describe the proposed project's construction- and operation-related air quality impacts and CO impacts.

Construction Emissions. During construction of the proposed project, short-term degradation of air quality may occur due to the release of particulate matter emissions (e.g., fugitive dust) generated by demolition, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Site preparation and project construction would involve demolition, grading, paving, and other activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM_{10}). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts. The City has established COA 9.5, which requires implementation of dust controls during project construction and would reduce construction-related air quality impacts of PM_{10} and $PM_{2.5}$ fugitive dust emissions, consistent with BAAQMD Basic Construction Mitigation Measures.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, ROGs and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those

vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod version 2020.4.0, consistent with BAAQMD recommendations. As stated in Chapter 3, Project Description, the proposed project would include demolition of the existing building and surface parking lot on the project site, resulting in approximately 180 tons of demolition waste, which was included in CalEEMod. Construction of the proposed project is anticipated to begin in March 2022 and last 17 months. The proposed project is anticipated to be fully operational and occupied by late 2023. Other construction details are not yet known; therefore, default assumptions (e.g., construction equipment and worker and truck trips) from CalEEMod were used. This analysis assumes the use of Tier 2 construction equipment, which is proposed by the project. Construction-related emissions are presented in Table 4.4.E. CalEEMod output sheets are included in Appendix D.

Table 4.4.E: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO_x	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
Average Daily Emissions	2.8	14.6	0.5	0.5	0.5	0.1
BAAQMD Thresholds	54.0	54.0	82.0	BMPs	54.0	BMPs
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (August 2021)
BAAQMD = Bay Area Air Quality Management District
BMP = best management practices
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in aerodynamic diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter
ROG = reactive organic gases

As shown in Table 4.4.E, construction ROG, NO_x, and $PM_{2.5}$ and PM_{10} exhaust emissions would be below the BAAQMD's thresholds. To reduce construction $PM_{2.5}$ and PM_{10} fugitive dust impacts to a less-than-significant level, the BAAQMD requires the implementation of BAAQMD Basic Construction Mitigation Measures. As identified above, the City has established COA 9.5, which requires implementation of dust controls during project construction and would reduce construction-related air quality impacts of PM_{10} and $PM_{2.5}$ fugitive dust emissions, consistent with BAAQMD Basic Construction Mitigation Measures. With implementation of COA 9.5, construction-related air quality impacts would be less than significant.

Operational Emissions. Long-term air pollutant emission impacts that would result from the proposed project are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity), area sources (e.g., architectural coatings and the use of landscape maintenance equipment), and stationary sources (e.g., emergency generator).

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement, and the vehicle wakes generate airborne

dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity is used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity) and the emission factor of the fuel source. Major sources of energy demand include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources. As identified in Chapter 3, Project Description, the proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for EV charging, and enhanced indoor air quality strategies including advanced ventilation.

Typically, area source emissions consist of direct sources of air emissions at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of landscaping equipment and the use of consumer products.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Trip generation rates used in CalEEMod for the project were based on the project's trip generation estimates, which assume the proposed project would typically generate 699 average daily trips (refer to Table 4.3.B in Section 4.3, Transportation, for trip generation estimates). In addition, the proposed project would comply with current CALGreen standards, which was included in the CalEEMod modeling assumptions. In addition, the proposed project would include an emergency generator within the ground level of the parking garage, which was included in CalEEMod.[24] When project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions. Model results are shown in Table 4.4.F. CalEEMod output sheets are included in Appendix D.

The primary emissions associated with the project are regional in nature, meaning that air pollutants rapidly disperse on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the Air Basin. The daily and annual emissions associated with project operational trip generation, energy, area, and stationary sources are identified in Table 4.4.F for ROG, NO_x, PM_{10}, and $PM_{2.5}$. The results shown in Table 4.4.F indicate the project would not exceed the significance criteria for ROG, NO_2, PM_{10} or $PM_{2.5}$ emissions; therefore, the proposed project would not have a significant effect on regional air quality, and mitigation measures would not be required. This impact would be less than significant.

[24] A 250-kilowatt (335 horsepower) back-up generator would be installed for emergency use only and would run 1 hour per week for testing.

Table 4.4.F: Project Operational Emissions

	ROG	NO_x	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Area Source Emissions	2.4	<0.1	<0.1	<0.1
Energy Source Emissions	0.1	0.6	<0.1	<0.1
Mobile Source Emissions	1.9	2.1	3.6	1.0
Stationary Source Emissions	0.1	0.2	<0.1	<0.1
Total Emissions	**4.4**	**3.0**	**3.7**	**1.0**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceeds Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Area Source Emissions	0.4	<0.1	<0.1	<0.1
Energy Source Emissions	<0.1	0.1	<0.1	<0.1
Mobile Source Emissions	0.2	0.3	0.5	0.1
Stationary Source Emissions	<0.1	<0.1	<0.1	<0.1
Total Emissions	**0.7**	**0.4**	**0.5**	**0.1**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (August 2021).
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxides
PM_{10} = Particulate Matter Less than 10 Microns in Aerodynamic Diameter
$PM_{2.5}$ = Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter
ROG = reactive organic gases

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. BAAQMD CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed development projects.

A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine the impacts of the project. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less than significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.

- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

The Air Basin has been designated attainment under both the national and California AAQS for CO. Therefore, the proposed project would not have the potential to substantially increase CO hotspots at intersections in Foster City.

Implementation of the proposed project would not conflict with the San Mateo County Transportation Authority's congestion management program for designated roads or highways, a regional transportation plan, or other agency plans. As further discussed in Section 4.3, Transportation, the proposed project would generate approximately 79 a.m. and 85 p.m. peak-hour trips; therefore, the project's contribution to peak-hour traffic volumes at intersections in the vicinity of the project site would be well below 44,000 vehicles per hour. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards and this impact would be less than significant.

3) Expose sensitive receptors to substantial pollutant concentrations

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. The closest sensitive receptors to the project site include multi-family residences located along Bridgepointe Circle, approximately 675 feet west of the project site.

According to the BAAQMD, a project would result in a significant impact related to TAC exposure if it would: individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10 in 1 million, increased non-cancer risk of greater than 1 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). A significant cumulative impact would occur if the project, in combination with other projects within a 1,000-foot radius of the project site, would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100 in 1 million, an increased non-cancer risk of greater than 10 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis. Potential impacts associated with the proposed project are discussed below.

Project Construction – Toxic Air Contaminants. As identified above, the closest sensitive receptors to the project site are the multifamily residences along Bridgepointe Circle, approximately 675 feet west of the project site. Construction of the proposed project may expose these nearby sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement COA 9.5 described above. With implementation of COA 9.5, project construction pollutant emissions would be below the BAAQMD significance thresholds. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during project construction, and mitigation measures would not be required. This impact would be less than significant.

Project Operation – Toxic Air Contaminants. Although the emissions from project operations are not expected to exceed the BAAQMD's numeric regional mass daily emission thresholds, this does not in itself constitute a less than significant health impact within the Air Basin.

The BAAQMD's project level thresholds are based in part on Section 180(e) of the Clean Air Act. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.

Notwithstanding, simply exceeding the BAAQMD's project level thresholds does not constitute a particular health impact to a nearby individual. The reason for this is that the project level thresholds are in pounds/day and tons/year emitted into the air, whereas health effects are determined based on the concentration of a pollutant in the air at a particular location (e.g., parts per million [ppm] by volume of air or $\mu g/m^3$of air). CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of ppm or $\mu g/m^3$ for the applicable emissions.

The daily and annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4.4.F for ROG, NO_x, PM_{10}, and $PM_{2.5}$. The results shown in Table 4.4.F indicate the project would not exceed the significance criteria for ROG, NO_x, PM_{10} or $PM_{2.5}$ emissions. The increase in emissions associated with the proposed project would be a small fraction of the Air Basin's emissions.

Therefore, the emissions associated with implementation of the proposed project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for NO_x, $PM_{2.5}$, and PM_{10}. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NO_x, ROG, and O_3 (which is a byproduct of NO_x and ROG) have been trending downward within the Air Basin even as development has increased over the last several years. Therefore, implementation of the proposed project is not expected to result in any Air Basin-wide increase in health effects. As such, impacts are considered less than significant.

4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

During construction, the various diesel powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered less than significant.

Odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. The BAAQMD considers a significant odor impact as a substantial number of odor complaints, specifically, more than five confirmed

complaints per year average over the past 3 years. Examples of land uses that have the potential to generate considerable odors include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants.

The proposed life science office uses are not expected to produce any offensive odors that would result in frequent odor complaints. Therefore, implementation of the proposed project would not create objectionable odors affecting a substantial number of people and impacts would be less than significant.

4.4.2.3 Cumulative Impacts

According to the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The BAAQMD is currently designated as a nonattainment area for State and national O_3 standards and national particulate matter ambient air quality standards. BAAQMD nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Therefore, if the proposed project's daily average or annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would result in a considerable contribution to a cumulatively significant impact. As shown in Table 4.4.E and Table 4.4.F, implementation of the proposed project would not generate significant construction or operational emissions. As shown in the project-specific air quality impacts discussion above, the proposed project would not result in individually significant impacts and therefore the proposed project would not result in a cumulatively considerable contribution to regional air quality impacts. Cumulative impacts would be considered less than significant.

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4.5 GREENHOUSE GAS EMISSIONS

This section summarizes existing greenhouse gas (GHG) emissions and discusses global climate change, its causes, and the contribution of human activities. This section also estimates the likely GHG emissions that would result from construction and operational activities associated with development of the proposed project, including vehicular traffic, energy consumption and other emission sources. Standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant impacts are identified, where appropriate. The analysis performed for this section is based on Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines.[1]

4.5.1 Setting

The following describes existing GHG emissions in Foster City, beginning with typical GHG types and sources, impacts of global climate change, the regulatory framework surrounding these issues, and current emission levels.

4.5.1.1 Background

The following section provides background information on GHGs and global climate change.

Global Climate Change. Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2° Celsius or 1.1 ± 0.4° Fahrenheit in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[2] GHGs are present in the atmosphere naturally, are released by natural sources, or form from secondary reactions taking place in the atmosphere. The following gases are widely seen as the principal contributors to human-induced global climate change:

- CO_2
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

1 Bay Area Air Quality Management District (BAAQMD). 2017a. *CEQA Air Quality Guidelines.* May.

2 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, GHGs like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of GHG results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively only to the six gases listed above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential 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 carbon dioxide, 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 equivalent" (CO_2e). Table 4.5.A shows the GWP for each type of GHG. For example, sulfur hexafluoride is 22,800 times more potent at contributing to global warming than carbon dioxide.

Table 4.5.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoromethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: *Climate Change 2007: The Physical Science Basis* (Intergovernmental Panel on Climate Change 2007).
HFC = hydrofluorocarbon

The following summarizes the characteristics of the six GHGs and black carbon. Black carbon also contributes to climate change and is therefore discussed below.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral

production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far outweighing the 7 billion tons of man-made emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO_2, and consequently, the gas is building up in the atmosphere.

In 2018, total annual CO_2 emissions in California were approximately 351.9 million tons, accounting for approximately 83 percent of California's overall GHG emissions.[3] Transportation is the single largest source of CO_2 in California, approximately 47 percent, which is primarily comprised of on-road travel. Electricity production, industrial and residential sources also make important contributions to CO_2 emissions in California.

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in dairy cows, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 in California are approximately 39.8 million tons, accounting for approximately 9 percent of GHG emissions in California in 2018.

Nitrous Oxide. N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3 percent of GHG emissions in California in 2018.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[4] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry has resulted in greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 5 percent of GHG emissions in California in 2018.[5]

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3 California Air Resources Board (CARB). 2021. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed August 2021).

4 The Montreal Protocol is an international treaty that was approved on January 1, 1989 and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

5 CARB. 2021. op cit.

Black Carbon. Black carbon is the most strongly light-absorbing component of particulate matter (PM) formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of particulate matter less than 2.5 microns in size ($PM_{2.5}$) and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[6] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global-warming.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. Black carbon emissions in the U.S. are projected to decline substantially by 2030, largely due to controls on new mobile diesel emissions.[7]

Effects of Global Climate Change. Effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme weather events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global climate change may also result in impacts to local air quality from increased ground-level ozone and particulate matter.[8] Additionally, according to the 2006 California Climate Action Team (CAT) Report,[9] the following climate change effects, which are based on trends established by the United Nations Intergovernmental Panel on Climate Change (IPCC) and summarized in Table 4.5.B, can be expected in California over the course of the next century:

- The loss of sea ice and mountain snow pack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;

- Rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps in the Greenland and Antarctic ice sheets;

6 United States Environmental Protection Agency (USEPA). 2017. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed August 2021).

7 Ibid.

8 USEPA. 2020a. Air Quality and Climate Change Research. Website: https://www.epa.gov/air-research/air-quality-and-climate-change-research (accessed August 2021).

9 California Environmental Protection Agency (CalEPA). 2006a. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

- Changes in weather that include widespread changes in precipitation, ocean salinity, wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[10]

- Decline of the Sierra Nevada snowpack, which accounts for approximately one-half of the surface water storage in California by 70 percent to as much as 90 percent over the next 100 years;

- Increase in the number of days conducive to ozone (O_3) formation by 25 to 85 percent (depending on the future temperature scenario) in high O_3 areas of Los Angeles and the San Joaquin Valley by the end of the 21st century; and

- High potential for erosion of California's coastlines and seawater intrusion into the Sacramento-San Joaquin River Delta and levee systems due to the rise in sea level.

Emissions Inventories. An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions. Worldwide emissions of GHGs in 2018 totaled 25.6 billion metric tons of CO_2e. Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change.[11]

United States Emissions. In 2018, the year for which the most recent data are available, the United States emitted about 6,677.8 million metric tons of CO_2e (MMT CO_2e). The total 2018 CO_2e emissions represent a 3.7 percent increase from 1990 to 2018, down from a high of 15.2 percent above 1990 levels in 2007. Overall, net emissions in 2018 increased 3.2 percent since 2017 and decreased 10.2 percent from 2005 levels. Of the six major sectors—residential, commercial, agricultural, industry, transportation, and electricity generation—transportation accounted for the highest amount of GHG emissions in 2018 (approximately 27.9 percent), with electricity generation second at 26.9 percent and emissions from industry third at 22.2 percent.[12]

10 Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis, Summary for Policymakers. February.

11 United Nations Framework Convention on Climate Change. 2021. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed August 2021).

12 USEPA. 2020b. Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2018. Website: www.epa.gov/sites/production/files/2020-02/documents/us-ghg-inventory-2020-main-text.pdf (accessed August 2021).

Table 4.5.B: Potential Impacts of Global Warming and Expected Consequences for California

Potential Water Resource Impacts	Anticipated Consequences Statewide
Reduction of the State's average annual snowpack	• The decline of the Sierra snowpack would lead to a loss in half of the surface water storage in California by 70% to 90% over the next 100 years • Potential loss of 5 million acre-feet or more of average annual water storage in the State's snowpack • Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply • Higher surface evaporation rates with a corresponding increase in tropospheric water vapor
Rise in average sea level	• Potential economic impacts related to coastal tourism, commercial fisheries, coastal agriculture, and ports • Increased risk of flooding, coastal erosion along the State's coastline, seawater intrusion into the Sacramento-San Joaquin River Delta (Delta) and levee systems
Changes in weather	• Changes in precipitation, ocean salinity, and wind patterns • Increased likelihood for extreme weather events, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones
Changes in the timing, intensity, location, amount, and variability of precipitation	• Potential increased storm intensity and increased potential for flooding • Possible increased potential for droughts • Long-term changes in vegetation and increased incidence of wildfires • Changes in the intensity and timing of runoff • Possible increased incidence of flooding and increased sedimentation • Sea level rise and inundation of coastal marshes and estuaries • Increased salinity intrusion into the Delta • Increased potential for Delta levee failure • Increased potential for salinity intrusion into coastal aquifers (groundwater) • Increased potential for flooding near the mouths of rivers due to backwater effects
Increased water temperatures	• Increased environmental water demand for temperature control • Possible increased problems with foreign invasive species in aquatic ecosystems • Potential adverse changes in water quality, including the reduction of dissolved oxygen levels • Possible critical effects on listed and endangered aquatic species
Changes in urban and agricultural water demand	• Changes in demand patterns and evapotranspiration
Increase in the number of days conducive to O_3 formation	• Increased temperatures • Potential health effects, including adverse impacts to respiratory systems

Source: *Environmental Water Account Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR, Bureau of Reclamation Mid-Pacific Region*, Sacramento, California (United States Department of the Interior October 2007).
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
O_3 = ozone

State of California Emissions. The State emitted approximately 425 MMT CO_2e emissions in 2018, 8 MMT CO_2e higher than 2017 levels and 6 MMT CO_2e below the 2020 GHG Limit of 431 MMT CO_2e.[13] The California Air Resources Board (CARB) estimates that transportation was the source of approximately 40 percent of the State's GHG emissions in 2018, followed by industrial sources at 21 percent and electricity generation at 15 percent. The remaining sources of GHG emissions were agriculture at 8 percent, residential activities at 6 percent, commercial activities at 4 percent, high GWP at 5 percent, and waste at 2 percent.[14]

San Francisco Bay Area Emissions. In 2015, 85 MMT CO_2e of GHGs were emitted in the Bay Area.[15] The transportation sector (including on-road motor vehicles, locomotives, ships and boats, and aircraft) contributed 41 percent of GHG emissions and stationary sources (including oil refineries and natural gas combustion) contributed 26 percent of GHG emissions in the Bay Area. Energy production activities such as electricity generation and co-generation were the third largest contributor with approximately 14 percent of the total GHG emissions. Buildings contributed 10 percent, fluorinated gases contributed 4 percent, waste contributed 3 percent, and agriculture contributed 1 percent of the total GHG emissions.

City of Foster City Emissions. As shown in Table 4.5.C below, in 2005, Foster City emitted 274,722 metric tons of CO_2e (MT CO_2e) most of which was the result of transportation (60 percent) and building energy use (39 percent).[16]

Table 4.5.C: Foster City Greenhouse Gas Emissions Inventory

Pollutant	Percent Contribution	MT CO_2e/Year
Residential Building Energy Use	16	44,594
Commercial Building Energy Use	23	62,674
Transportation – Local Roads	21	56,890
Transportation – State Highways	35	94,976
Transportation – Off-Road Equipment	4	11,435
Generated Waste	1	4,153
Total	**100**	**274,722**

Source: Foster City Climate Action Plan (City of Foster City September 2015).
MT CO_2e = metric tons of carbon dioxide equivalent

4.5.1.2 Regulatory Framework

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

13 CARB. 2020d. *2000-2018 GHG Inventory (2020 Edition)*. Website: https://ww2.arb.ca.gov/ghg-inventory-data (accessed August 2021).

14 Ibid.

15 BAAQMD. 2017c. *Final 2017 Clean Air Plan*. April 19, 2017. Website: www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en (accessed August 2021).

16 City of Foster City, 2015. *Foster City Climate Action Plan.* September.

Federal Regulations. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the United States Environmental Protection Agency (USEPA) has the authority to regulate CO_2 emissions under the federal Clean Air Act. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

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

Assembly Bill 1493 (2002). In a response to the transportation sector's significant contribution to California CO_2 emissions, Assembly Bill (AB) 1493 was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of Clean Air Act Preemption was not granted by the USEPA until June 30, 2009. The CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025.

Executive Order S-3-05 (2005). Executive Order S-3-05 was signed by the governor on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, the executive order established California GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010.
- GHG emissions should be reduced to 1990 levels by 2020.
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various State agencies to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the governor and State Legislature disclosing the progress made toward greenhouse emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads the Climate Action Team (CAT), composed of representatives from State agencies as well as numerous other boards and departments. CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State Climate Adaptation Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in the executive order and further defined under AB 32, the "Global Warming Solutions Act of 2006." The first CAT Report to the governor and State Legislature was released in March 2006 and it presented 46 specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the Executive Order. The most recent CAT Report to the Governor and State legislature was released in December 2010.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State Legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 MMT CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008 and contains the main strategies California will implement to achieve the reduction of approximately 169 MMT of CO_2e, or approximately 30 percent, from the State's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent from 2002 to 2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e)
- The Low-Carbon Fuel Standard (15.0 MMT CO_2e)
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e)
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e)

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high-speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry

out AB 32. The CARB also approved a more robust California Environmental Quality Act (CEQA) equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade program took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

The CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, the CARB is also developing an additional protocol for community emissions). The CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. With regard to land use planning, the Scoping Plan expects an approximately 5 MMT CO_2e reduction due to implementation of Senate Bill (SB) 375 (discussed later in this subsection).

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the CARB and the CAT to identify a list of "discrete early action GHG reduction measures" that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, the governor signed Executive Order S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard. The Executive Order sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the CARB to consider the Low Carbon Fuel Standard as a discrete early action measure. In 2011, the United States District Court for the Eastern District of California issued an injunction preventing implementation of the Low Carbon Fuel Standard, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of Appeal stayed the District Court's injunction, allowing implementation of the Low Carbon Fuel Standard. The Ninth Circuit decided to uphold the Low Carbon Fuel Standard.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (Low Carbon Fuel Standard, Restrictions on GWP Refrigerants, and Landfill CH_4 Capture).[17] Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF_6 reductions from the nonelectricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT.[18]

17 CARB. 2007a. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

18 CARB. 2007b. "ARB approves tripling of early action measures required under AB 32," News Release 07-46. October 25.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan, and it also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. The CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32.[19] The 2030 target is to reduce GHG emissions to 40 percent below 1990 levels by 2030.

Senate Bill 97 (2007). SB 97, signed by the Governor in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code, Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the State Office of Planning and Research to prepare, develop, and transmit to the California Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA.

The California Natural Resources Agency adopted the amendments to the *State CEQA Guidelines* in January 2010, which went into effect in March 2010. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

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

19 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November.

Executive Order B-30-15 (2015). The governor signed Executive Order B-30-15 on April 29, 2015, which added the immediate target:

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

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

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

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

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

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016 the Legislature passed, and the governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in the April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps the State on the path toward achieving the 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

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

Senate Bill 100 (SB 100). On September 10, 2018, the Governor signed SB 100, which raises California's Renewable Portfolio Standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable

energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the Western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

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

Title 24, Building Standards Code and CALGreen Code. In November 2008, the California Building Standards Commission established the California Green Building Standards (CALGreen) Code, which sets performance standards for residential and nonresidential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2016 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2017.

Cap and Trade. The development of a cap-and-trade program was included as a key reduction measure of the CARB AB 32 Climate Change Scoping Plan. The cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. The cap-and-trade emissions trading program CARB developed took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the State by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap was set in 2013 at approximately 2 percent below the emissions forecast for 2020. In 2014, the cap declined approximately 2 percent. Beginning in 2015 and continuing through 2020, the cap has been declining approximately 3 percent annually. The CARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agriculture and food industries, steel mills, cement companies, and universities. On January 1, 2015, compliance obligation began for distributors of transportation fuels, natural gas, and other fuels. California is working closely with British Columbia, Ontario, Québec, and Manitoba through the Western Climate Initiative to develop harmonized cap-and-trade programs that will deliver cost-effective emission reductions. Two

lawsuits have been filed against cap-and-trade, but the cap-and-trade program will be implemented as-is until further notice.[20]

Executive Order N-79-20. Executive Order N-79-20, which was signed by the Governor on September 23, 2020, sets the following goals for the State: 100 percent of in-State sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

Regional Regulations. Regional regulations that are applicable to GHG emissions generated by the proposed project are implemented by the Metropolitan Transportation Commission, the Association of Bay Area Governments, and BAAQMD, as discussed below.

Plan Bay Area 2050. Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. In the Bay Area, the Metropolitan Transportation Commission and the Association of Bay Area Governments are jointly responsible for developing and adopting a SCS that integrates transportation, land use and housing to meet GHG reduction targets set by the CARB. Plan Bay Area 2050 includes 35 strategies to improve housing, the economy, transportation, and the environment. These strategies enable the plan to be evaluated by its performance in areas identified as key regional concerns, including equitable access, economic vitality and transportation system effectiveness.

Bay Area Air Quality Management District. The BAAQMD is the regional government agency that regulates sources of air pollution within the nine Bay Area counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Clean Air Plan. The Clean Air Plan guides the region's air quality planning efforts to attain the CARB's California Ambient Air Quality Standards.[21] The BAAQMD 2017 Clean Air Plan, which the BAAQMD Board of Directors adopted on April 19, 2017, is the current Clean Air Plan that contains district-wide control measures to reduce ozone precursor emissions (e.g., reactive organic gases and nitrogen oxide [NO_x]), particulate matter and GHG emissions. The Bay Area 2017 Clean Air Plan:

- Describes the BAAQMD's plan towards attaining all State and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities
- Defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050

[20] CARB. 2014. Cap-and-Trade Program. Website: www.arb.ca.gov/cc/capandtrade/capandtrade.htm (accessed August 2021).

[21] BAAQMD. 2017a. op. cit.

- Provides a regional climate protection strategy that will put the Bay area on a pathway to achieve GHG reduction targets

- Includes a wide range of control measures designed to decrease emissions of air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "Super Greenhouse Gases" that are potent climate pollutants in the near term; and to decrease emissions of CO_2 by reducing fossil fuel combustion.

BAAQMD Climate Protection Program. The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing GHG emissions and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

BAAQMD CEQA Air Quality Guidelines. The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions.

In June 2010, the BAAQMD adopted updated draft CEQA Air Quality Guidelines and finalized them in May 2011. These guidelines superseded previously adopted agency air quality guidelines of 1999 and were intended to advise lead agencies on how to evaluate potential air quality impacts.

In May 2017, the BAAQMD published an updated version of the CEQA Air Quality Guidelines. The CEQA Air Quality Guidelines include thresholds to evaluate project impacts to protectively evaluate the potential effects of the project on air quality. These protective thresholds are appropriate in the context of the size, scale, and location of the project.

Under the CEQA Air Quality Guidelines, a local government may prepare a Qualified Greenhouse Gas Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy and General Plan that addresses the project's GHG emissions, it can be presumed that the project will not have significant GHG emissions under CEQA. The CEQA Air Quality Guidelines also included a quantitative threshold for project level analyses based on estimated greenhouse emissions as well as per capita metrics.

City of Foster City. The City of Foster City (City) addresses global climate change and GHG emissions in the General Plan, Climate Action Plan, and Building Codes. In addition, the City has standard Conditions of Approval that would apply to the proposed project.

General Plan. The General Plan sets goals, policies, and programs that relate to GHG emissions and energy use in the Land Use and Circulation Element and Conservation Element. The following policies and programs are applicable to the proposed project.

- **Policy LUC-E-6: Create Opportunities for Transit Access.** Create opportunities to improve transit and access to regional transit with new or modified development, as appropriate.

- **Program LUC-F-2-a: Implementation of Traffic Reduction Programs.** As appropriate, require new non-residential developments to include a traffic reduction strategy with a variety of methods to reduce single-occupancy vehicles, provided programs exist.

- **Policy LUC-G-2: Preferred Parking/Electric Plug-In.** Encourage businesses, developers, and property managers to create preferred parking for electric and alternative fuel vehicles and study the installation of electric charging stations for plug-in vehicles.

- **Program LUC-H-1-a: Green Building Guidelines and Incentives.** The City will support the use of green building practices by:

  a. Providing information, marketing, training, and technical assistance about green building practices;

  b. Considering guidelines for green building practices in residential and commercial development; and

  c. Implementing sustainable practices where feasible in public buildings and spaces

- **Policy LUC-H-5: Tree and Landscape Planting.** Look for opportunities throughout the City to increase tree and landscape planting or enhance landscaped areas by promoting drought tolerant species that grow well in Foster City, pursuant to the Outdoor Water Conservation Ordinance and other landscaped related guidelines.

- **Program C-b: Property Owner Water Saving Techniques.** Encourage all property owners to implement the following conservation techniques: utilize drought tolerant plant materials, limit turf areas to 25% of landscaping, limit hours of the day for watering, retrofit with water-conserving fixtures, retrofit existing bathrooms and install new bathrooms with ultra low-flow toilets and water-conserving shower heads.

- **Program C-d: Water Conservation Plan.** Update the City's Water Conservation Plan. This plan describes water system deficiencies, and water supply and demand within the District service area.

- **Program C-l: TSM Ordinance Enforcement.** Enforce the City's Transportation Systems Management (TSM) Ordinance for existing and proposed businesses with more than 25

employees to promote use of SamTrans, vanpools, carpools and flextime working hours for employees.

- **Program C-m: Reduction in Automobile Trips.** Encourage Foster City residents and employees to consolidate and/or eliminate motor vehicle trips as often as possible.

Climate Action Plan. In February 2016, the City adopted a Climate Action Plan (CAP) that aims to satisfy the AB 32 GHG emission reduction goals. The CAP established the following GHG reduction targets: achieving 15-percent GHG emissions reduction below the baseline year (2005) levels by 2020, 20 percent below 2005 levels by 2025, and 80 percent below 2005 levels by 2050.

The CAP consists of goals, policies, and measures that would reduce GHG emissions from a wide range of sources and promote and increase sustainability within Foster City. The GHG reduction measures in the CAP include:

- **Energy (Community):** Energy efficiency upgrades to residential and commercial buildings through code adoption, funding programs, and urban forestation programs.

- **Energy (Municipal):** Energy efficiency upgrades and improvements by the City through revised building standards, solar systems, purchase of environmentally friendly materials, and leveraging of funds.

- **Transportation and Land Use (Community):** Policies in the General Plan that reduce automobile trips through compact and more efficient land use patterns that promote a balanced mix of land uses, encourage alternative modes of transportation, and encourage use of hybrid and electric cars.

- **Transportation-Related Municipal Operations:** Policies that promote energy efficiency in the City fleet and promote telecommuting and flexible work schedules to reduce vehicle trips.

- **Waste (Community):** Waste diversion from landfills to reduce the generation of methane and other GHGs.

- **Energy and Water:** Energy reduction in the heating and usage of water.

- **Education:** Programs to increase awareness of conservation, sustainability, and the Climate Action Plan.

Building Code. The City has adopted the following codes related to GHG emissions and energy use of buildings for future projects:

- 2019 California Building Code
- 2019 CALGreen Code
- 2019 California Energy Code

The City's Municipal Code is current through Ordinance 631, which was enacted on December 16, 2019.

Standard Conditions of Approval. The following Condition of Approval would apply to the proposed project:

- **COA 6.7:** The applicant shall provide a letter describing the sustainable practices that are included in the project and referencing the sheets in the building permit drawings that demonstrate the inclusion of the sustainable practices for review and approval by the Community Development Director.

4.5.2 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to GHG emissions that could result from implementation of the proposed project.

A single project typically does not generate a sufficient quantity of GHG emissions to affect global climate change; therefore, the global climate change impacts of the proposed project are discussed in the context of cumulative impacts, following the approach recommended by the BAAQMD. This section begins by establishing the thresholds to determine whether an impact is significant and then analyzes GHG emissions both quantitatively and qualitatively. The latter part of this section evaluates the GHG emissions expected to result from the project and the recommended feasible mitigation measures, if required.

4.5.2.1 Significance Criteria

Per Appendix G of the *State CEQA Guidelines*, the proposed project would have a significant impact related to GHG emissions if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Project-Specific Thresholds. Section 15064.4 of the *State CEQA Guidelines* states "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project." In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions, or to rely on a qualitative analysis or performance-based standards. This EIR relies on both quantitative thresholds, which are scaled from the State and BAAQMD numeric operational thresholds, and a qualitative analysis of compliance with applicable regulatory standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the

project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Construction Threshold. The BAAQMD has not adopted thresholds for construction emissions but recommends quantification and disclosure of these emissions. Local agencies are encouraged to adopt feasible mitigation measures to reduce construction emissions. This EIR quantifies and analyzes whether the project's construction GHG emissions would be cumulatively significant and, if so, whether the project itself would then result in significant adverse impacts on global climate change. Pursuant to BAAQMD guidance, feasible mitigation measures are identified to reduce construction-period emissions.

Operational Threshold. According to the BAAQMD CEQA Guidelines and consistency with *State CEQA Guidelines* Section 15183.5, if a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy that meets the standards, it can be presumed that the project will not have significant GHG emission impacts.

The City's CAP meets the requirements for a Qualified CAP and is designed to streamline environmental review of future development projects in the city. The CAP established the following GHG reduction targets: achieving 15-percent GHG emissions reduction below the baseline year (2005) levels by 2020, 20 percent below 2005 levels by 2025, and 80 percent below 2005 levels by 2050. However, the proposed project would not be operational until 2023; therefore, because the City's CAP was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2019 California Green Building Code) and the 2030 GHG targets established in SB 32, the City's CAP would not apply for streamlining. However, the CAP sets forth measures to achieve emission reductions; therefore, a qualitative analysis of the proposed project's consistency with these measures is provided.

The BAAQMD's most recent quantitative threshold is 1,100 metric tons of CO_2e (MT CO_2e) per year or 4.6 MT CO_2e per year per service population. These numeric operational thresholds set by the BAAQMD were calculated to achieve the State's 2020 target for GHG emissions levels (and not the SB 32 specified target of 40 percent below the 1990 GHG emissions level). The BAAQMD has not yet updated the operational thresholds to achieve target GHG emissions levels for 2030. Because the proposed project would begin operations in the post-2020 timeframe, the BAAQMD 2020 efficiency target of 1,100 MT CO_2e per year threshold and 4.6 MT CO_2e per year per service population, which have been the thresholds most recently applied to development projects, would not directly apply, as using them would not achieve the State's post-2020 GHG reduction goals.

CARB has completed a Scoping Plan, which the BAAQMD will use to establish the 2030 GHG efficiency threshold. However, BAAQMD has yet to publish a quantified GHG efficiency threshold for the 2030 target. Therefore, pursuant to CEQA Guidelines Section 15064.4(a), the City has the discretion to, in the context of a particular project, both quantify a project-specific threshold and conduct a qualitative analysis. Therefore, a scaled threshold consistent with State goals detailed in SB 32, Executive Order B-30-15, and Executive Order S-3-05 to reduce GHG emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050,

respectively, was developed for evaluation of the proposed project for 2023, when the proposed project is anticipated to be operational.

Based on the calculations, discussed in more detail below, to quantitatively determine significance, this EIR uses thresholds of 968 MT CO_2e per year or 4.1 MT CO_2e per capita service population (employees plus residents) per year, which were calculated for the buildout year of 2023 based on the GHG reduction goals of SB 32 and Executive Order B-30-15. These thresholds are scaled from the BAAQMD 2020 target threshold to fit the Statewide 2030 target (40 percent below 1990 levels of emissions).

The scaled thresholds were calculated as follows:

- The 2020 threshold was based on the 2020 target (1990 levels of emissions by 2020). Based on the current 2030 target (40 percent below 1990 levels by 2030), 40 percent below the 2020 threshold (1990 level) of 1,100 MT CO_2e per year or 4.6 MT CO_2e per year per service population (employees plus residents) would represent the 2030 threshold (660 MT CO_2e per year or 2.76 MT CO_2e per year per service population).

- The threshold between 2020 and 2030 is scaled at 4 percent per year (40 percent across the 10-year period).

- With an anticipated project operation date of 2023, the proposed project's target would be 968 MT CO_2e or 3.9 MT CO_2e per year per service population. This threshold is 12 percent below the 2020 target at 4 percent per year reduction from the 2020 target for the 3-year period between 2020 and 2023.

4.5.2.2 Project Impacts

The following section describes potential impacts associated with GHG emissions that could occur with development of the proposed project.

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

This section discusses the proposed project's impacts related to the release of GHG emissions for both the construction and operation periods.

Construction Impacts. GHG emissions associated with the proposed project would occur over the short term from demolition and construction activities, which would produce combustion emissions from various sources, but primarily of emissions from equipment exhaust. During demolition and construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As identified in Section 4.5.2.1, the BAAQMD has not adopted thresholds for construction emissions but recommends quantification and disclosure of these emissions. The California Emissions Estimator Model version 2020.4.0 (CalEEMod) was used to estimate demolition and construction-related emissions associated with the proposed project. As stated in Project Description, the proposed project would include demolition of the existing building and surface parking lot on the project site, resulting in approximately 180 tons of demolition waste, which was included in CalEEMod. Construction of the proposed project is anticipated to begin in March 2022 and last 17 months. The proposed project is anticipated to be fully operational and occupied by late 2023. Other construction details are not yet known; therefore, default assumptions (e.g., construction equipment and worker and truck trips) from CalEEMod were used. This analysis assumes the use of Tier 2 construction equipment, which is proposed by the project. CalEEMod output sheets are included in Appendix D.

Using CalEEMod, it is estimated that construction of the proposed project would generate a total of 509.7 MT CO_2e. Although the BAAQMD does not have adopted thresholds for construction emissions, without implementation of all feasible reduction measures, construction period impacts would be potentially significant.

The BAAQMD recommends adoption of Basic Construction Mitigation Measures to mitigate GHG construction emissions. Implementation of COA 9.5, as identified in Section 4.4, Air Quality, would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, project construction impacts associated with GHG emissions would be less than significant.

Operational Impacts. Long-term operation of the proposed project would generate GHG emissions from area, mobile, stationary, waste, and water sources as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with trips to the proposed project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site and other sources. Stationary source emissions would include operation of the emergency generator. Waste source emissions generated by the proposed project include energy generated by landfilling and other methods of disposal related to transporting and managing project-generated waste. In addition, water-source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Trip generation rates used in CalEEMod for the project were based on the project's trip generation estimates, which assume the proposed project would typically generate 699 average daily trips (refer to Table 4.3.B in Section 4.3, Transportation, for trip generation estimates). In addition, the proposed project would comply with current CALGreen standards, which was included in the CalEEMod modeling assumptions. The proposed project would also include an emergency generator within the ground level of the parking garage, which was

included in CalEEMod.[22] When project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions. Model results are shown in Table 4.5.D. CalEEMod output sheets are included in Appendix D.

Table 4.5.D: Proposed Project GHG Emissions (Metric Tons Per Year)

Emissions Source	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percentage of Total
Area Source Emissions	<0.1	<0.1	0.0	<0.1	<1
Energy Source Emissions	212.1	<0.1	<0.1	213.7	29
Mobile Source Emissions	438.0	<0.1	<0.1	445.1	60
Stationary Source Emissions	6.6	<0.1	0.0	6.7	1
Waste Source Emissions	1.5	0.1	0.0	3.7	<1
Water Source Emissions	30.9	1.2	<0.1	70.4	10
Total Annual Emissions				**739.5**	**100**
Significance Threshold[1]				**968.0**	
Exceed Threshold?				**No**	
Total Annual Service Population Emissions (Metric Tons/Year/Service Population)				**3.47**	-
Service Population Threshold[1]				**4.1**	-
Exceed Threshold?				**No**	-

Source: Compiled by LSA (August 2021).

[1] This threshold is based on the BAAQMD thresholds using a statewide 2020 target (achieve 1990 levels by 2020) regressed to fit the statewide 2030 target (40 percent below 1990 levels of emissions) for the project's opening year of 2023.

BAAQMD = Bay Area Air Quality Management District
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

As shown in Table 4.5.D, mobile source emissions are the largest source of emissions, at approximately 60 percent of total CO_2e emissions, followed by energy source emissions at approximately 29 percent of the total. In addition, water source emissions are approximately 10 percent and stationary source emissions are approximately 1 percent of the total emissions. Area and waste source emissions each account for less than 1 percent of the total emissions.

As discussed above and based on the project-specific thresholds developed for this analysis, GHG emissions generated by the proposed project would be less than significant if one or more of the following criteria are met: (1) the proposed project results in operational-related GHG emissions of less than 968 MT CO_2e per year, or (2) the proposed project would result in operational-related GHG emissions of less than 4.1 MT CO_2e per year per service population (residents plus employees). As shown in Table 4.5.D, the proposed project would generate 739.5 metric tons of CO_2e per year, which would be below the numeric threshold of 968 metric tons CO_2e. Therefore, this impact would be less than significant. Because the project would meet the first criterion, evaluation of the second criterion related to service population is not required, although the analysis is provided below for informational purposes.

[22] A 250-kilowatt (335 horsepower) back-up generator would be installed for emergency use only and would run 1 hour per week for testing.

As discussed in Chapter 3, Project Description, it is anticipated that the project site would accommodate approximately 213 employees. The proposed project would not include housing; therefore the total service population (residents plus employees) would be 213 people. Therefore, the project's GHG emissions would result in a GHG efficiency of 3.47 MT CO_2e per service population, which would be well below the 4.1 MT CO_2e per service population threshold. Therefore, this impact would be less than significant.

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs

Applicable plans adopted for the purpose of reducing GHG emissions include the Scoping Plan, Plan Bay Area, and the City's CAP. As such, the proposed project was evaluated for consistency with those plans to demonstrate whether the proposed project would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the GHG emissions.

Scoping Plan. The following discussion evaluates the proposed project according to the goals of AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Executive Order B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. The CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32.[23] SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps the State on the path toward achieving the 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by the CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by AB 32, Executive Order B-30-15, and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as qualitatively discussed below.

Energy Measures. Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new

[23] CARB. 2017, op. cit.

technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As identified in the Project Description, the proposed project would be designed to achieve Leadership in Energy and Environmental Design (LEED) Silver equivalence, would comply with current CALGreen standards, would include exterior shading to respond to solar exposure, and would have low-flow indoor water fixtures, advanced water and energy metering, infrastructure for electric vehicle charging, and enhanced indoor air quality strategies including advanced ventilation. Therefore, the proposed project would comply with applicable energy measures.

Water Conservation and Efficiency Measures. Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would achieve LEED Silver equivalence, use low-flow indoor water fixtures, advanced water and energy metering, and would comply with current CALGreen standards. LEED and CALGreen standards include a variety of different measures, including reduction of wastewater and water use. Therefore, the proposed project would comply with applicable water conservation and efficiency measures.

Transportation and Motor Vehicle Measures. The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would comply with applicable transportation and motor vehicle measures.

The proposed project would develop life science office uses that would locate employees near existing office, commercial, hotel, light industrial, residential, park, and institutional uses, reducing the demand for travel by single occupancy vehicles. The proposed project would also develop a Transportation Demand Management plan to provide trip reduction measures and reduce vehicle traffic in and around the project site (refer to Section 4.3, Transportation). In addition, public transit facilities serve the project area and the proposed project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles.

Table 4.5.E summarizes the proposed project's consistency with the 2017 Scoping Plan's mitigation measures identified in Appendix B of the 2017 Scoping Plan.

Plan Bay Area. As described above, Plan Bay Area 2050 is a State-mandated, integrated long-range transportation and land use plan. Plan Bay Area 2050 includes 35 strategies to improve housing, the economy, transportation, and the environment. These strategies enable the plan to be evaluated by its performance in areas identified as key regional concerns, including equitable access, economic vitality, and transportation system

effectiveness. Table 4.5.F includes an evaluation of the proposed project's consistency with the strategies in Plan Bay Area 2050.

Table 4.5.E: Project Consistency with 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Comply with lead agency's standards for mitigating transportation impacts under SB 743.	***Consistent.*** The proposed project will be evaluated by the City of Foster City for compliance with SB 743 requirements through an analysis of VMT and implementation of recommended mitigation measures. Refer to Section 4.3, Transportation, for additional discussion.
Require on-site EV charging capabilities for parking spaces serving the project to meet jurisdiction-wide EV proliferation goals.	***Consistent.*** The proposed project would provide infrastructure for EV parking and charging.
Allow for new construction to install fewer on-site parking spaces than required by local municipal building code, if appropriate.	***Consistent.*** The proposed project would not install fewer on-site parking spaces; however, the proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. The TDM measures would encourage employees to use other transportation options and rely less on driving alone, consistent with the intent of this measure.
Dedicate on-site parking for shared vehicles.	***Consistent.*** The proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. As such, the TDM measures would encourage employees to use other transportation options and rely less on driving alone, consistent with the intent of this measure.
Provide adequate, safe, convenient, and secure on-site bicycle parking and storage in multifamily residential projects and in non-residential projects.	***Consistent.*** The proposed project would provide bicycle parking on site.
Provide on- and off-site safety improvements for bike, pedestrian, and transit connections, and/or implement relevant improvements identified in an applicable bicycle and/or pedestrian master plan.	***Consistent.*** The proposed project would develop life science office uses that would locate employees near existing office, commercial, hotel, light industrial, residential, park, and institutional uses. The proposed project would include EV parking and would provide new sidewalks and bicycle parking on site. In addition, the project area is served by public transit facilities. As such, the proposed project would help to reduce the demand for travel by single-occupancy vehicles, consistent with the intent of this measure.
Require on-site renewable energy generation.	***Not Applicable.*** The proposed project would not provide renewable energy generation; however, the proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, and advanced water and energy metering. All energy provide to the site would be consistent with the State's Renewable Energy Portfolio standards.
Prohibit wood-burning fireplaces in new development, and require replacement of wood-burning fireplaces for renovations over a certain size developments.	***Consistent.*** The proposed project would not include wood-burning fireplaces.
Require cool roofs and "cool parking" that promotes cool surface treatment for new parking facilities as well as existing surface lots undergoing resurfacing.	***Consistent.*** The proposed project would demolish the existing surface parking lot and would provide approximately half of the parking within an enclosed parking structure, reducing the need for cool parking facilities.

Table 4.5.E: Project Consistency with 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Require solar-ready roofs.	***Not Applicable.*** The proposed project would not include solar-ready roofs, which more appropriately fit the design of single-family residences. However, the proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, and advanced water and energy metering.
Require organic collection in new developments.	***Consistent.*** Foster City is served by Recology San Mateo County for solid waste, recycling, and composting services. As such, the proposed project would provide composting services.
Require low-water landscaping in new developments. Require water efficient landscape maintenance to conserve water and reduce landscape waste.	***Consistent.*** The proposed project would incorporate low-flow indoor water fixtures, advanced water and energy metering, and on-site stormwater would be collected, treated per C.3 treatment methods, and conveyed to the City's storm drain main within Vintage Park Drive.
Achieve Zero Net Energy performance building standards prior to dates required by the Energy Code.	***Not Consistent.*** Although the project is not anticipated to achieve net zero energy, the proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for EV charging, and enhanced indoor air quality strategies including advanced ventilation.
Encourage new construction, including municipal building construction, to achieve third-party green building certifications, such as the GreenPoint Rated program or the LEED rating system.	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for EV charging, and enhanced indoor air quality strategies including advanced ventilation.
Require the design of bike lanes to connect to the regional bicycle network.	***Consistent.*** The proposed project would not include bike lanes; however, the project would encourage pedestrian and bicycle access. In addition, the project would provide bicycle parking on-site.
Expand urban forestry and green infrastructure in new land development.	***Consistent.*** A total of approximately 28,000 square feet of open space would be provided across the entire project site. Open space would consist of approximately 22,000 square feet of ground-level common open space and an approximately 6,000-square-foot rooftop terrace on the fourth level that would include landscaping. Of the existing 55 trees on the project site, 53 would be removed. Approximately 53 new trees would be planted throughout the project site. Additionally, another 61 off-site trees would remain around the project site, including within the Estero Municipal Improvement District strip, in the Vintage Park Community Association park, and along the Vintage Park Drive frontage. In addition, landscaping would be provided through the project site, including adjacent to Vintage Park Drive.
Require preferential parking spaces for park and ride to incentivize carpooling, vanpooling, commuter bus, electric vehicles, and rail service use.	***Consistent.*** The proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. As such, the TDM measures would encourage employees to use other transportation options and rely less on driving alone, consistent with the intent of this measure.

Table 4.5.E: Project Consistency with 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Require a transportation management plan for specific plans which establishes a numeric target for non-SOV travel and overall VMT.	***Consistent.*** The proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. As such, the TDM measures would encourage employees to use other transportation options and rely less on driving alone, consistent with the intent of this measure.
Develop a rideshare program targeting commuters to major employment centers.	***Consistent.*** The proposed project would develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project site. As such, the TDM measures would encourage employees to use other transportation options and rely less on driving alone, consistent with the intent of this measure.
Require the design of bus stops/shelters/express lanes in new developments to promote the usage of mass-transit.	***Not Applicable.*** There are no planned bus stops within the immediate vicinity of the project site.
Require gas outlets in residential backyards for use with outdoor cooking appliances such as gas barbeques if natural gas service is available.	***Not Applicable.*** The proposed project would not include residential uses.
Require the installation of electrical outlets on the exterior walls of both the front and back of residences to promote the use of electric landscape maintenance equipment.	***Not Applicable.*** The proposed project would not include residential uses.
Require the design of the electric boxes in new residential unit garages to promote electric vehicle usage.	***Not Applicable.*** The proposed project would not include residential uses.
Require electric vehicle charging station (Conductive/inductive) and signage for non-residential developments.	***Consistent.*** The proposed project would provide infrastructure for EV parking and charging.
Provide electric outlets to promote the use of electric landscape maintenance equipment to the extent feasible on parks and public/quasi-public lands.	***Not Applicable.*** The proposed project would not include parks or public/quasi-public lands.
Require each residential unit to be “solar ready,” including installing the appropriate hardware and proper structural engineering.	***Not Applicable.*** The proposed project would not include residential uses.
Require the installation of energy conserving appliances such as on-demand tankless water heaters and whole-house fans.	***Not Applicable.*** The proposed project would not include residential uses.
Require each residential and commercial building to be equipped with energy efficient AC units and heating systems with programmable thermostats/timers.	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure and enhanced indoor air quality strategies including advanced ventilation.
Require large-scale residential developments and commercial buildings to report energy use, and set specific targets for per-capita energy use.	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, and advanced water and energy metering.
Require each residential and commercial building to utilize low flow water fixtures such as low-flow toilets and faucets.	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include low-flow indoor water fixtures and advanced water and energy metering.
Require the use of energy-efficient lighting for all street, parking, and area lighting.	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include energy-efficient lighting throughout.

Table 4.5.E: Project Consistency with 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Require the landscaping design for parking lots to utilize tree cover and compost/mulch.	***Not Applicable.*** A total of approximately 28,000 square feet of open space would be provided across the entire project site.
Incorporate water retention in the design of parking lots and landscaping, including using compost/mulch.	***Not Applicable.*** The on-site stormwater would be collected, treated per C.3 treatment methods, and conveyed to the City's storm drain main within Vintage Park Drive.
Require the development project to propose an off-site mitigation project which should generate carbon credits equivalent to the anticipated GHG emission reductions. This would be implemented via an approved protocol for carbon credits from California Air Pollution Control Officers Association (CAPCOA), the California Air Resources Board, or other similar entities determined acceptable by the local air district.	***Not Applicable.*** The proposed project would not propose an off-site mitigation project as mitigation is not required.
Require the project to purchase carbon credits from the CAPCOA GHG Reduction Exchange Program, American Carbon Registry (ACR), Climate Action Reserve (CAR) or other similar carbon credit registry determined to be acceptable by the local air district.	***Not Applicable.*** The proposed project would not purchase carbon credits from the CAPCOA GHG Reduction Exchange Program, ACR, CAR or other similar carbon credit registry as mitigation is not required.
Encourage the applicant to consider generating or purchasing local and California-only carbon credits as the preferred mechanism to implement its off-site mitigation measure for GHG emissions and that will facilitate the State's efforts in achieving the GHG emission reduction goal.	***Not Applicable.*** The proposed project would not generate or purchase local or California-only carbon to achieve net zero GHG emissions, as mitigation is not required.

Source: Compiled by LSA (August 2021).
AC = air conditioning
CALGreen = California Green Building Standards Code
City = City of Foster City
EV = electric vehicle
GHG = greenhouse gas
LEED = Leadership in Energy and Environmental Design
SB = Senate Bill
SOV = single-occupancy vehicle
TDM = Transportation Demand Management
USEPA = United States Environmental Protection Agency
VMT = vehicle miles traveled

Table 4.5.F: Project Consistency with Plan Bay Area 2050

Goal	Strategy	Project Consistency
Protect and Preserve Affordable Housing	H1. Further strengthen renter protections beyond state law.	***Not Applicable.*** The proposed project would not include residential uses.
	H2. Preserve existing affordable housing.	***Not Applicable.*** The project site does not include any existing residential uses.
Spur Housing Production for Residents of All Income Levels	H3. Allow a greater mix of housing densities and types in Growth Geographies.	***Not Applicable.*** The proposed project would not include residential uses.
	H4. Build adequate affordable housing to ensure homes for all.	***Not Applicable.*** The proposed project would not include residential uses.
	H5. Integrate affordable housing into all major housing projects.	***Not Applicable.*** The proposed project would not include residential uses.
	H6. Transform aging malls and office parks into neighborhoods.	***Not Applicable.*** The proposed project would not include residential uses.
Create Inclusive Communities	H7. Provide targeted mortgage, rental and small business assistance to Equity Priority Communities.	***Not Applicable.*** The proposed project would not include residential uses.
	H8. Accelerate reuse of public and community-owned land for mixed-income housing and essential services.	***Not Applicable.*** The project site does not contain any public or community-owned land.
Improve Economic Mobility	EC1. Implement a statewide universal basic income.	***Not Applicable.*** The proposed project is a private development and would not include the use of any public funding.
	EC2. Expand job training and incubator programs.	***Consistent.*** The proposed project would include life science office uses, thereby increasing the number of available jobs within the region.
	EC3. Invest in high-speed internet in underserved low-income communities.	***Not Applicable.*** The proposed project would not include residential uses and would not require the construction of new public infrastructure.
Shift the Location of Jobs	EC4. Allow greater commercial densities in Growth Geographies.	***Not Applicable.*** The project site is not located within a Growth Geography.
	EC5. Provide incentives to employers to shift jobs to housing-rich areas well served by transit.	***Consistent.*** The proposed project would include life science office uses in an infill area well-served by transit, thereby increasing the number of available jobs within the vicinity and in proximity to residential areas.
	EC6. Retain and invest in key industrial lands.	***Not Applicable.*** The project site is not located within a Priority Production Area.

Table 4.5.F: Project Consistency with Plan Bay Area 2050

Goal	Strategy	Project Consistency
Create Healthy and Safe Streets	T8. Build a Complete Streets network.	***Consistent.*** Pedestrian access to the proposed building would be provided by both Vintage Park Drive and Chess Drive, including new sidewalks connecting to Chess Drive and a landscaped area between the Vintage Park Drive right-of-way and the proposed building. Vehicular access to the project site would be provided by the existing driveways along Vintage Park Drive and Chess Drive.
	T9. Advance regional Vision Zero policy through street design and reduced speeds.	***Consistent.*** The proposed project would provide adequate sight distance at the proposed driveway and, as required by Mitigation Measure TRA-1, would implement changes to the existing roadway geometry to reduce conflicting automobile movements that could be hazardous.
Reduce Risks From Hazards	EN1. Adapt to sea level rise.	***Consistent.*** The project site is not located in an area susceptible to impacts related to sea level rise.
	EN2. Provide means-based financial support to retrofit existing residential buildings.	***Not Applicable.*** The project site does not include any existing residential uses.
	EN3. Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings.	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, and advanced water and energy metering. All energy provide to the site would be consistent with the State's Renewable Energy Portfolio standards.
Expand Access to Parks and Open Space	EN4. Maintain urban growth boundaries.	***Consistent.*** The project site is located within the City of Foster City on a previously developed site.
	EN5. Protect and manage high-value conservation lands.	***Not Applicable.*** The project site is located on a previously developed site and is not located within a conservation area.
	EN6. Modernize and expand parks, trails and recreation facilities.	***Not Applicable.*** The proposed project would not include any modifications to any parks, trails, or recreation facilities.
Reduce Climate Emissions	EN7. Expand commute trip reduction programs at major employers.	***Consistent.*** The proposed project would include the implementation of a TDM plan to provide trip-reduction measures and reduce vehicle traffic in and around the project.
	EN8. Expand clean vehicle initiatives.	***Consistent.*** The proposed project would provide infrastructure for EV parking and charging.
	EN9. Expand transportation demand management initiatives.	***Consistent.*** The proposed project would include the implementation of a TDM plan to provide trip-reduction measures and reduce vehicle traffic in and around the project.

Sources: Metropolitan Transportation Commission and Association of Bay Area Governments (2021); LSA (December 2021).
Note: Strategies related to Maintaining and Optimizing the Existing System and Building a Next-Generation Transit Network (strategies T1 through T7 and T10 through T12) are not evaluated here as they require regional investment as opposed to specific action by individual projects.
EV = electric vehicle
LEED = Leadership in Energy and Environmental Design
TDM = Transportation Demand Management

Foster City Climate Action Plan. As discussed above, the City adopted its CAP in February 2016 and aims to satisfy the AB 32 GHG emission reduction goals. The CAP is consistent with *State CEQA Guidelines* Section 15183.5; therefore, the CAP serves a tiering document for analyzing

GHG emissions of future development. The CAP established the following GHG reduction targets: achieving 15-percent GHG emissions reduction below the baseline year (2005) levels by 2020, 20 percent below 2005 levels by 2025, and 80 percent below 2005 levels by 2050. However, the proposed project would not be operational until 2023; therefore, because the City's CAP was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2019 California Green Building Code) and the 2030 GHG targets established in SB 32, the City's CAP would not apply for streamlining. However, the CAP sets forth measures to achieve emission reductions; therefore, a qualitative analysis of the proposed project's consistency with the CAP measures is provided in Table 4.5.G.

Conclusion. As described above, the proposed project would generally be consistent with the City of Foster City CAP, Plan Bay Area, and the California Climate Change Scoping Plan. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the GHG emissions. This impact would be less than significant.

4.5.2.3 Cumulative Impacts

GHG impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in GHG emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. This serves to define the State's share of the reductions regardless of the activities or lack of activities of other areas of the United States or the world. Therefore, a cumulative threshold based on consistency with State targets and actions to reduce GHGs is an appropriate standard of comparison for significance determinations.

AB 32 requires the CARB to reduce Statewide GHG emissions to 1990 level by 2020. As part of this legislation, the CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was first adopted in 2011 and in it, local governments were described as "essential partners" in meeting the statewide goal, recommending a GHG reduction level of 15 percent below 2005 to 2008 levels by 2020. In addition, the CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 GHG emissions reductions target of at least 40 percent below 1990 levels by 2030.

As discussed above, the proposed project is anticipated to be fully operational and occupied by late 2023. As such, the proposed project would be required to help the City do its part in reducing GHG emissions beyond 2020. As identified above, the proposed project incorporates design features consistent with the applicable measures as included in the City's CAP, Plan Bay Area 2050, and the Scoping Plan. In addition, the proposed project would not generate GHG emissions that would exceed the scaled BAAQMD significance thresholds. As such, cumulative impacts would be considered less than significant.

Table 4.5.G: Project Consistency with CAP Strategies

Measures	Project Consistency
EC1: Implement a Residential Green Building Ordinance	***Not Applicable.*** The proposed project would not include residential uses.
EC2: Encourage Personal Energy Audits and Energy Efficient Home Upgrades	***Not Applicable.*** The proposed project would not include residential uses.
EC3: Encourage ad Facilitate Residential Energy Efficiency Upgrades	***Not Applicable.*** The proposed project would not include residential uses.
EC4: Adopt a Commercial Green Building Ordinance	***Consistent.*** The City of Foster City has not adopted a Commercial Green Building Ordinance. However, the City of Foster City has adopted the statewide California Green Building Standard for new constructions. As such, the proposed project is subject to the 2019 California Green Building Standards and would be consistent with this measure.
EC5: Encourage and Facilitate Business Energy Efficiency Upgrades	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for EV charging, and enhanced indoor air quality strategies including advanced ventilation.
EC6: Provide Financing for Commercial Energy Efficiency and Renewable Energy	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
EC7: Encourage Solar Panel Installation	***Not Applicable.*** The proposed project would not provide solar; however, the proposed project would be designed to achieve LEED Silver equivalence and would include exterior shading to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for EV charging, and enhanced indoor air quality strategies, including advanced ventilation.
EC8: Create a Requirement for Urban Forestation	***Consistent.*** A total of approximately 28,000 square feet of open space would be provided across the entire project site. Open space would consist of approximately 22,000 square feet of ground level common open space and an approximately 6,000-square-foot rooftop terrace on the fourth level that would include landscaping. Of the existing 55 trees on the project site, 53 would be removed. Approximately 53 new trees would be planted throughout the project site. Additionally, another 61 off-site trees would remain around the project site, including within the EMID strip, in the VPCA park, and along the Vintage Park Drive frontage. In addition, landscaping would be provided through the project site, including adjacent to Vintage Park Drive.
EC9: Work with Developers and Employers to Develop Robust Sustainability Plans to Minimize GHG Emissions	***Not Applicable.*** This is a community policy based goal; therefore, this measure would not be applicable to the project.
TL1: Implement Smart Growth Development	***Consistent.*** The proposed project would result in the demolition of an existing building and surface parking lot and the redevelopment of the project site with life science office uses.

Table 4.5.G: Project Consistency with CAP Strategies

Measures	Project Consistency
TL2: Implement Complete Streets and Pedestrian and Bicycle-Friendly Design	***Consistent.*** The proposed project would develop life science office uses that would locate employees near existing office, commercial, hotel, light industrial, residential, park, and institutional uses, reducing the demand for travel by single-occupancy vehicles. The proposed project would also develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project. In addition, the project area is served by public transit facilities and the proposed project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles, consistent with the intent of this measure.
TL3: Incentivize and Explore Car and Bike Sharing	***Consistent.*** The proposed project would develop life science office uses that would locate employees near existing office, commercial, hotel, light industrial, residential, park, and institutional uses, reducing the demand for travel by single-occupancy vehicles. The proposed project would also develop a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the project. In addition, the project area is served by public transit facilities and the proposed project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles, consistent with the intent of this measure.
TL4: Encourage a Preferred Parking/Electric Plug-in Policy for Alternative Fuel Vehicles	***Consistent.*** The proposed project would provide infrastructure for EV parking and charging.
T5: Support Safe Routes to School	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
WC1: Achieve a Higher Waste Diversion Rate of 75 Percent	***Consistent.*** The proposed project would comply with the CalRecycle initiative of reducing landfill waste by 75 percent.
WC2: Adopt an Ordinance to Prohibit Disposable Polystyrene Food Ware	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
WC3: Continue Participation in a Grading or Award Program for Commercial Good Waste Collection	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
WC4: Implement a Ban on Single Use Plastic Carryout Bags and Charge for Paper and Reusable Bags	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
WC5: Adopt a Construction and Demolition Ordinance	***Consistent.*** The proposed project would be consistent with the City's Construction and Demolition Ordinance.
WC6: Adopt a Yard Waste Ordinance	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
WC7: Facilitate Recycling of Styrofoam and Hard-to-recycle Plastics	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
EW1: Lower Residential and Commercial Water Usage in Foster City	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would install low-flow indoor water fixtures and advanced water and energy metering.
EW2: Adopt a Water-wise Landscaping Ordinance and Outdoor Water Saving incentives	***Consistent.*** The City's EMID has adopted an Outdoor Water Conservation in Landscaping Ordinance that offers incentives to reduce outdoor water usage. The proposed project is subject to the applicable outdoor water conservation in landscaping measures in the ordinance.
EW3: Adopt an Ordinance and incentives for Indoor Water Savings	***Consistent.*** The City has adopted an Indoor Water Use Efficiency Ordinance that specifies various types of water appliances for new construction and applicable remodels. The proposed project is subject to the applicable indoor water use efficiency measures in the ordinance.

Table 4.5.G: Project Consistency with CAP Strategies

Measures	Project Consistency
EW4: Establish Conservation-Based Water Rates	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
EW5: Increase Promotion for Water-saving Programs	***Consistent.*** The proposed project would be designed to achieve LEED Silver equivalence and would install low-flow indoor water fixtures and advanced water and energy metering.
EW6: Create More Informative Water Bills	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.
E7: Work with BAWSCA and EMID to Improve Water Conservation Information	***Not Applicable.*** This is a community policy-based goal; therefore, this measure would not be applicable to the project.

Sources: City of Foster City (2015); LSA (August 2021).
BAWSCA = Bay Area Water Supply and Conservation Agency
CalRecycle = California Department of Resources Recycling and Recovery
City = City of Foster City
EMID = Estero Municipal Improvement District
EV = electric vehicle
LEED = Leadership in Energy and Environmental Design
TDM = Transportation Demand Management
VPCA = Vintage Park Community Association

4.6 NOISE

This section describes existing noise and vibration conditions, sets forth criteria for determining the significance of noise and vibration impacts, and estimates the likely noise and vibration impacts that would result from construction and operation of the proposed project. Standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant noise and vibration impacts are identified, where appropriate.

4.6.1 Setting

This section describes the fundamentals of noise and vibration, summarizes the regulatory framework, and describes the existing noise environment of the project site and its vicinity.

4.6.1.1 Characteristics of Sound

Noise is generally defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is the number of complete vibrations or cycles per second of a wave that results in the range of tone from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment, and it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effects on adjacent sensitive land uses.

Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Table 4.6.A contains a list of typical acoustical terms and definitions. Figure 4.6-1 shows representative outdoor and indoor noise levels in units of A-weighted decibels (dBA).

A decibel (dB) is a unit of measurement which indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

Table 4.6.A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

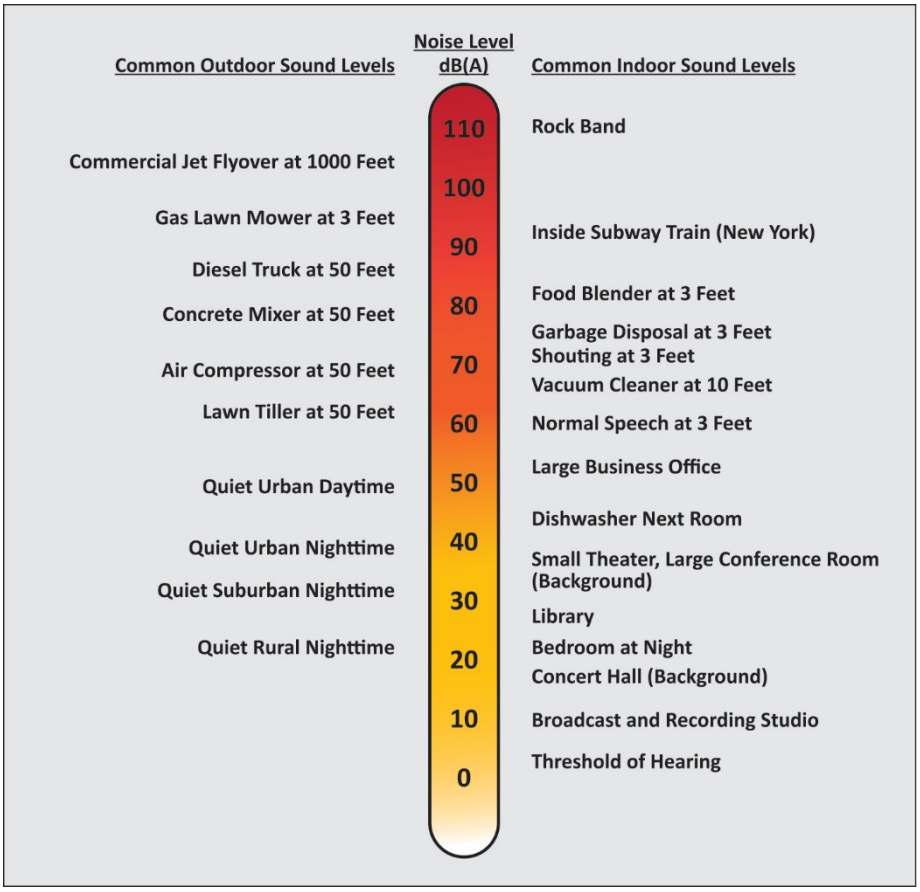
Source: *Handbook of Acoustical Measurements and Noise Control* (Cyril Harris 1998)

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The

noise adjustments are added to the noise events occurring during the more sensitive hours. Typical A-weighted sound levels from various sources are described in Figure 4.6-1.

Figure 4.6-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions, and addresses the annoying aspects of intermittent noise.

Noise standards in terms of percentile exceedance levels, L_n, are often used together with the L_{max} for noise enforcement purposes. When specified, the percentile exceedance levels are not to be exceeded by an offending sound over a stated time period. For example, the L_{10} noise level represents the level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the

time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level. For a relatively steady noise, the measured L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dBA or greater, because, as described earlier, this level of noise change has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dBA. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1 dBA that are inaudible to the human ear. A change in noise level of at least 5 dBA would be required before any noticeable change in human response would be expected and a 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise. The effects of noise on people can also be described in three categories: annoyance, interference with activities such as speech or sleep, and physiological effects such as hearing loss. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the ear, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling.

Unwanted community effects of noise occur at levels much lower than those that cause hearing loss and other health effects. Noise annoyance occurs when it interferes with sleeping, conversation, and noise-sensitive work, including learning or listening to the radio, television, or music. According to World Health Organization noise studies, few people are seriously annoyed by daytime activities with noise levels below 55 dBA, or are only moderately annoyed with noise levels below 50 dBA.[1]

4.6.1.2 Characteristics of Ground-borne Vibration

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause perceptible vibration from the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise. When assessing annoyance from ground-borne noise, vibration is typically expressed as root-mean-square (RMS) velocity in units of decibels of 1 microinch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB." Human perception to vibration starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at approximately 70 VdB. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion

[1] World Health Organization. 1999. *Guidelines for Community Noise*.

of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive ground-borne vibration has the potential to cause structural damage to buildings. Vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Common sources of ground-borne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. Typical vibration source levels from construction equipment are shown in Table 4.6.B.

Table 4.6.B: Typical Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (in/sec)	Approximate VdB at 25 feet
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	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: *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration, May 2006)
PPV = peak particle velocity
VdB = vibration velocity decibels

4.6.1.3 Existing Noise Environment

The ambient noise environment in Foster City is affected by a variety of noise sources, including vehicle traffic, aircraft, commercial, and industrial noise. The following section describes the existing noise environment and identifies the primary noise sources in the vicinity of the project site.

Existing Traffic Noise. Motor vehicles with their distinctive noise characteristics are a major source of noise in the city. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Traffic noise depends primarily on traffic speed (high-frequency tire noise increases with speed) and the proportion of truck traffic, which generates engine, exhaust, and wind noise. The proximity of freeways and major streets, and the large amount of truck traffic serving commercial uses in the area make the city susceptible to traffic noise. Traffic noise at the project site is primarily associated with vehicle traffic on Vintage Park Drive, Chess Drive, and State Route 92.

Existing Commercial Noise. Commercial activity from the Home Depot parking lot to the west is a major noise source at the project site. Truck access, vehicles parking, loading/unloading activities, and loudspeaker announcements are all associated with the parking lot to the west.

Existing Aircraft Noise. The project site is not near a private airstrip. The closest airport to the project site is San Carlos Airport, 3.7 miles south of the project site.[2] The project site is within Area A of the Airport Influence Area (AIA) Boundary of San Carlos Airport, where requirements for real estate disclosure are mandatory due to potential noise issues. In addition, San Francisco International Airport (SFO) is approximately 5.5 miles northwest of the project site.[3] The project site is within Area B of the AIA Boundary of the SFO, where land development proposals shall be reviewed by the Airport Land Use Commission. In addition, real estate disclosures are also mandatory.

As regulated by Federal Aviation Regulations Part 150, 65 dBA CNEL is considered the ambient noise level above which residential and other noise-sensitive land uses (including schools, hospitals, and places of worship) are considered incompatible. Although aircraft-related noise is occasionally audible on the project site, the site does not lie within the 65 dBA CNEL noise contours of either of these airports.

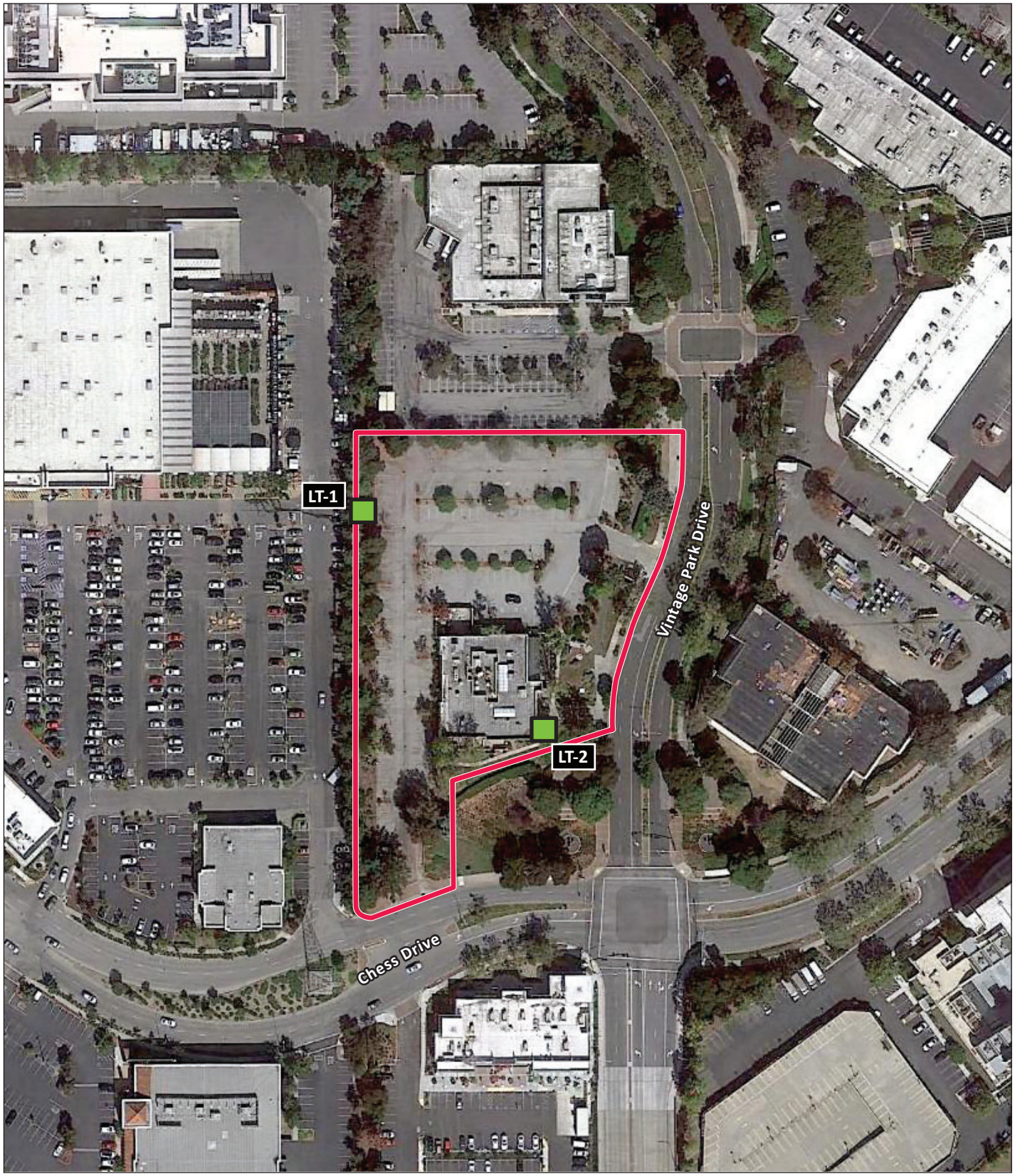
Existing Industrial/Office Noise. Industrial land uses in Foster City are limited primarily to light industrial operations (e.g., manufacturing, distribution, storage). Rooftop mechanical equipment noise from Gilead Sciences' buildings to the northwest of the project site are audible and contribute to noise levels in the vicinity.

Existing Sensitive Land Uses. Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, transient lodging, educational facilities, hospitals, childcare facilities, and senior housing. The project site is surrounded by commercial, office, and light industrial uses, none of which are considered sensitive uses. The nearest residential uses to the project site are multifamily units approximately 675 feet to the west. Transient lodging uses (TownePlace Suites by Marriott) are 410 feet to the south.

Ambient Noise Level Monitoring. To update and assess the existing noise conditions in the project vicinity, noise measurements were conducted at the project site. Two long-term (24-hour) measurements were taken from June 17, 2021, to June 18, 2021. Additionally, one short-term (15-minute) measurement was taken on June 17, 2021. Based on noise measurement results, the uses in the vicinity of the project site are exposed to noise levels between 59.0 dBA L_{dn} and 64.3 dBA L_{dn} primarily associated with vehicle traffic noise. Figure 4.6-2 shows locations of the noise measurements and the results are summarized in Table 4.6.C. Noise measurement data information is provided in Appendix E of this analysis.

[2] Federal Aviation Administration. 2021. Airport Data and Contact Information. Effective July 15, 2021. Database searched for both public-use and private-use facilities in San Mateo County. Website: http://www.faa.gov/airports/airport_safety/airportdata_5010/, accessed July 19, 2021.

[3] Ibid.



LSA

FIGURE 4.6-2

N

0 100 200
FEET

Project Site Boundary

Long Term Monitoring Locations

388 Vintage Park Drive Project EIR
Noise Monitoring Locations

SOURCES: Google Earth, 9/26/2020; LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 4.6-2.ai (8/17/2021)

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Table 4.6.C: Existing Noise Level Measurements

Location Number	Location Description	Daytime Noise Levels[1] (dBA L_{eq})	Nighttime Noise Levels[2] (dBA L_{eq})	Average Daily Noise Levels (dBA L_{dn})	Primary Noise Sources
LT-1	Northwest portion of site adjacent to Home Depot parking lot near garden center. Approximately 400 feet from nearest lanes of Chess Drive.	54.9-60.0	49.8–56.6	61.5	Home Depot activity, rooftop mechanical equipment (tonal) from Gilead Sciences buildings, distant traffic
LT-2	Southeast corner of existing building on site, 110 feet from center of Vintage Park Drive.	54.6-58.6	45.9-54.7	59.0	Traffic along Vintage Park Drive and Chess Drive
ST-1[3]	Southwest corner of site, 32 feet from center of Chess Drive	60.6-64.6	51.9-60.7	64.3	Traffic on Chess Drive and the entrance/exit for commercial parking lots

Source: Compiled by LSA (July 2021).
[1] Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
[2] Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.
[3] Short-term measurement data estimated based on corresponding long-term measurement intervals.
L_{dn} = Day/Night Noise Level
dBA = A-weighted decibels

4.6.1.4 Regulatory Framework

The following section provides brief discussions of the federal and local regulatory framework related to noise.

Federal Transit Administration. The criteria for environmental impacts resulting from ground-borne vibration and noise are based on the maximum levels for a single event. The City of Foster City's (City) Municipal Code does not include specific criteria for assessing vibration impacts associated with structural damage. Therefore, for the purpose of determining the significance of vibration impacts experienced at sensitive uses surrounding the project site, the guidelines within the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) (FTA Manual) have been used to determine vibration impacts associated with potential damage and are presented in Table 4.6.D below.

Table 4.6.D Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), Table 12-3.
FTA = Federal Transit Administration PPV = peak particle velocity
in/sec = inches per second

The FTA Manual guidelines show that a vibration level of up to 0.12 inches per second (in/sec) in PPV is considered safe for buildings extremely susceptible to vibration damage and would not result in any construction vibration damage. Therefore, to be conservative, the 0.12 in/sec in PPV threshold has been used when evaluating vibration impacts at the nearest structures to the site (i.e., an approved storage building north of the project site).

To provide numerical thresholds related to ground-borne vibration impacts, criteria included in the FTA Manual for human annoyance are shown in Table 4.6.E. The criteria account for the variation in project types as well as the frequency of events, which differ widely among projects. It is logical that when there would be fewer events per day, it should take higher vibration levels to evoke the same community response. The variation in project times and the frequency of events is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, in which the term "frequent events" is defined as more than 70 events per day.

Table 4.6.E Ground-Borne Vibration Impact Criteria for General Assessment

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 µin/sec)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), Table 8-1.

[1] Frequent events are defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

[2] Occasional events are defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

[3] Infrequent events are defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

[4] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

µin/sec = microinches per second
FTA = Federal Transit Administration
HVAC = heating, ventilation, and air-conditioning
VdB = vibration velocity decibels

City of Foster City. The City addresses noise in the Noise Element of the General Plan[4] and in the Municipal Code. In addition, the City of Foster City has standard Conditions of Approval (COAs) that would be applicable to the proposed project.

Foster City General Plan. The goals, policies and programs listed in the Noise Element that are applicable to the proposed project are summarized as follows:

- The Land Use Compatibility Standards identify acceptable noise exposure levels for new development according to land use. Community noise exposure levels up to 65 dBA L_{dn} are considered normally acceptable for office buildings, businesses, and commercial uses. Interior

[4] Foster City, City of, 1993. *Foster City General Plan*, *Chapter 6: Noise Element*. May.

noise levels are a function of the use of space, and offices should generally be limited to 45 dBA L_{eq} or less.

- The noise environment in existing residential areas is required to be protected. The City requires mitigation measures for projects that would cause the L_{dn} to increase by 3 dBA or more where noise levels would exceed or currently exceed 60 dBA L_{dn}.

Foster City Municipal Code. The City's Municipal Code[5] has established regulations in the Noise Section (17.68.030) to regulate noise created within the city to surrounding sensitive receptors. Table 4.6.F below presents the noise limits.

Table 4.6.F: Noise Limits From the City Municipal Code

Receiving Land Use Category	Time Period	Exterior Noise Level Standards (dBA)	
		Any time duration greater than 3 minutes	Any time duration less than 3 minutes
One or two-family residential	10:00 p.m. – 7:30 a.m.	50	55
	7:30 a.m. – 10:00 p.m.	60	65
Multi-family, public space	10:00 p.m. – 7:30 a.m.	55	60
	7:30 a.m. – 10:00 p.m.	60	65
Commercial, office	10:00 p.m. – 7:30 a.m.	60	65
	7:30 a.m. – 10:00 p.m.	65	70
Light industrial	10:00 p.m. – 7:30 a.m.	65	70
	7:30 a.m. – 10:00 p.m.	70	75

Source: Foster City Municipal Code. Section 17.68.030

Section 17.68.030(E), Prohibited Acts, states that Operation of construction equipment is permitted only in a residential zone or within 100 feet of a residential zone between the hours of 7:30 a.m. and 8:00 p.m. on weekdays and between the hours of 9:00 a.m. and 8:00 p.m. on weekends and legal holidays. Additionally, noise from construction must not exceed 100 dB at the noise producer's property plane unless prior authorization is obtained.

Section 17.68.040, Vibration, states that no vibration shall be permitted to cause a noticeable tremor, measurable without instruments at the lot line. Because the City does not have established specific vibration impact criteria, the FTA criteria presented above will be used to assess potential damage and human annoyance during construction activities.

Foster City Standard Conditions of Approval. The following COAs adopted by the City require implementation of noise controls during project construction and operation:

- **COA 2.9:** The construction contractor shall designate a "noise disturbance coordinator" who shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaints (e.g., beginning work too early, bad muffler) and institute reasonable measures warranted to correct the

[5] Foster City, City of, 2021a. *Foster City Municipal Code*. May 17.

problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site. The construction contractor shall protect all downstream sanitary sewer lines from construction debris while performing sanitary sewer construction. Means to prevent construction debris must be used and shall be inspected by the construction inspector.

- **COA 2.17:** Prior to commencement of any site work or placement of any construction trailers, the applicant shall submit a Site Logistics Plan showing proposed haul routes, placement of the construction trailers (if any) and areas for materials/equipment materials/ equipment delivery, materials/equipment storage, waste collection and maintenance/fueling of vehicles/equipment. The Site Logistics Plan shall be subject to approval by the Community Development Director.

    - The Site Logistics Plan designated storage areas for material delivery, storage, and waste collection shall be as far away from catch basins, gutters, drainage courses, and water bodies as possible. All hazardous materials and wastes used or generated during project site development activities shall be labeled and stored in accordance with applicable local, state, and federal regulations. In addition, an accurate up-to-date inventory, including Material Safety Data Sheets, shall be maintained on-site to assist emergency response personnel in the event of a hazardous materials incident.

    - The Site Logistics Plan designated area for all maintenance and fueling of vehicles and equipment shall be bermed or over a drip pan that will not allow run-off of spills. Vehicles and equipment shall be regularly checked and have leaks repaired promptly at an off-site location. Secondary containment shall be used to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured.

    - The Site Logistics Plan shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

- **COA 7.1:** Three (3) sets of an acoustical analysis, including one electronic or pdf version, shall be submitted, prepared by a licensed professional, specifying the manner in which interior noise levels will be reduced to the required Community Noise Equivalency Level (CNEL) per Title 24 of the California Administrative Code and Chapter 17.68 of the Foster City Municipal Code. The details of noise attenuation recommended in the report will be subject to the review and approval of the Chief Building Official.

- **COA 9.1:** Construction activities shall be limited to the hours of 8 a.m. to 5 p.m. on weekdays unless deviations from this schedule are approved in advance by the City. Nonconstruction activities may take place between the hours of 7 a.m. and 8 a.m. on weekdays and 9 a.m. and 4 p.m. on Saturdays but must be limited to quiet activities and shall not include the use of engine-driven machinery. No actual construction activities may take place between 7 a.m. and 8 a.m., except when post-tension slab foundations are being poured, the concrete pumper may be set up but no concrete may be poured. Forklifts shall be allowed to operate onsite between the hours of 5:00 p.m. and 6:30 p.m. on weekdays.

The Planning Commission reserves the right to rescind this condition and further restrict construction activities in the event that the public health, safety and welfare are not protected due to noise levels emanating from the construction project.

  - **9.1.1:** Any requested deviations from the allowed hours for construction activities shall be submitted to the Community Development Director a minimum of two (2) working days in advance for review and approval. Any approved deviations from the allowed hours shall be communicated to the Building Inspection Division and the Police Department.

- **COA 9.2:** In order to minimize construction noise impacts, all engine-driven construction vehicles, equipment and pneumatic tools shall be required to use effective intake and exhaust mufflers; equipment shall be properly adjusted and maintained; all construction equipment shall be equipped with mufflers in accordance with OSHA standards.

- **COA 9.4:** The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

- **COA 9.5:** The following controls shall be implemented at all construction sites within the project to control dust and/or mud production and fugitive dust.

  - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR). Clear signage shall be provided for construction workers at all access points.

- **COA 11.05:** Truck arrival and unloading operations shall be conducted in accordance with all applicable City Ordinance requirements. If noise associated with truck arrival or unloading operations becomes a problem, all future site lessees, operators and/or owners shall work with the City to develop a plan to minimize noise, including requiring an adjustment of truck arrival and/or unloading times.

4.6.2 Impacts and Mitigation Measures

This section discusses potential noise and vibration impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and identifies applicable COAs and/or mitigation measures, as appropriate.

4.6.2.1 Criteria of Significance

The project would have a significant impact on noise if it would result in:

1) 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 General Plan or the Municipal Code, and/or the applicable standards of other agencies;

2) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels; or

3) The location of a project 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, so that the project would result in exposure of people residing or working in the project area to excessive noise levels.

In *California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, the California Supreme Court concluded that CEQA generally does not require analysis or mitigation of the impact of existing environmental conditions on a project, including a project's future users or residents.[6] However, as with other laws and regulations enforced by other agencies that protect public health and safety, the City as the lead agency has authority, other than CEQA, to require measures to protect public health and safety. Therefore, this document includes an evaluation of the environment's impacts on the proposed project. The evaluation includes an assessment of the project's potential to locate office land uses in an area considered to be "conditionally acceptable" in the City's noise and land use compatibility standards.

4.6.2.2 Project Impacts

The following section discusses the potential noise and vibration impacts associated with implementation of the proposed project.

1) Generate an increase in ambient noise conditions in excess of established standards

The following describes the short-term construction and long-term operational noise impacts of the proposed project. As discussed, these impacts would be less than significant with implementation of recommended mitigation measures.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Impact NOI-1: Noise from construction activities at the project site would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (S)

Short-term noise impacts would occur during demolition, grading, paving, and site preparation activities. Table 4.6.G lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise

[6] California Supreme Court. 2015. *California Building Industry Association v. Bay Area Air Quality Management District 62 Cal.4th 369, Case No. S213478*. December.

receptor, obtained from the Federal Highway Administration Roadway Construction Noise Model.

Table 4.6.G: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (Federal Highway Administration 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Specification 721.560 from the Central Artery/Tunnel program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project has been completed.

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to the site, which would incrementally increase noise levels on roads leading to the site. As shown in Table 4.6.G, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} with trucks passing at 50 feet.

The second type of short-term noise impact is related to noise generated during demolition, excavation, grading, paving, foundation installation, and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the

dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table 4.6.G lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the construction equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve 1–2 minutes of full power operation followed by 3–4 minutes at lower power settings.

In addition to the reference maximum noise level, the usage factor provided in Table 4.6.G is used to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10\log(U.F.) - 20\log\left(\frac{D}{50}\right)$$

where: $L_{eq}(equip)$ = L_{eq} at a receiver resulting from the operation of a single piece of equipment over a specified time period

E.L. = Noise emission level of the particular piece of equipment at a reference distance of 50 ft

U.F. = Usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time

D = Distance from the receiver to the piece of equipment

Each piece of construction equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq\ (composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

Table 4.6.H shows the composite noise levels of the pieces of equipment for each construction phase at a distance of 50 feet from the construction area. Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Leq\ (at\ distance\ X) = Leq\ (at\ 50\ feet) - 20 * \log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA.

Table 4.6.H shows the construction phases, the expected duration of each phase, the equipment expected to be used during each phase, the composite noise levels of the equipment at 50 feet,

the distances of the nearest residential buildings from the nearest location of construction activities, and corresponding noise levels expected during each phase of construction. These noise level projections do not take into account intervening topography or barriers. Appendix E provides construction noise calculations.

Table 4.6.H: Construction Noise Levels by Phase

Phase	Duration (days)	Equipment	Composite Noise Level at 50 ft (dBA L_{eq})	Distance to 100 dBA Contour (ft)	Noise Level at Hotel Receptor 410 ft south (dBA L_{eq})	Noise Level at Multifamily Receptor 675 ft west (dBA L_{eq})
Demolition	20	1 Dozer, 2 Backhoes, Tractor, Front Loader, Saws	83	7	65	61
Site Preparation	3	1 Grader, 1 Scraper, Tractor/Loader/Backhoe	85	9	67	63
Grading	6	1 Grader, 2 Backhoes, 1 Dozer	82	7	64	60
Building Construction	220	1 Crane, 2 Forklifts, 1 Generator Set, 1 Tractor/Loader/Backhoe, 3 Welders	82	7	64	60
Paving	10	1 Concrete Mixer, 1 Paver, 2 Rollers, 1 Tractor/Loader/Backhoe	85	9	66	62
Architectural Coating	10	1 Compressor	81	6	63	58

Source: Compiled by LSA (2021).
[1] Distances are from the nearest edge of the project site. Residential zoned properties would be beyond 100 ft from the edge of construction activity.
dBA L_{eq} = average A-weighted hourly noise level
ft = foot/feet

It is expected that average noise levels during construction at the nearest sensitive receptors, the hotel guest rooms to the south, would approach 67 dBA L_{eq} during the site preparation phase, which would take place for a duration of approximately 3 days. Average noise levels during other construction phases would range from 63 dBA L_{eq} to 66 dBA L_{eq}. Average noise levels at the multifamily residences to the west would range from 58 dBA L_{eq} to 63 dBA L_{eq} during all phases of construction. These noise levels have the potential to exceed existing hourly noise levels at surrounding sensitive receptors.

As discussed above, the City requires that construction activity within 100 feet of residential land uses must not exceed 100 dB at the producer's property plane unless prior authorization is obtained. Although most heavy construction equipment would operate in the middle of the project site and would generate noise levels at the property line of less than 100 dBA, nearby off-site receptors may be perceived as much louder when equipment operates closer to the property boundary. Although residential land uses are further than 100 feet away from the site, there is potential for construction equipment noise levels to exceed 100 dB at the project site's

property plane when louder equipment is used within approximately 10 feet of the project site boundaries.

COA 2.9 specifies required measures to address and track construction noise complaints during construction by designating a noise disturbance coordinator. COA 9.1 provides limits on the days and hours of construction to avoid generating noise when it would be most objectionable to neighboring residences and occupants of the nearby existing hotel. COA 9.2 requires all engine-driven construction vehicles, equipment, and pneumatic tools to use effective intake and exhaust mufflers; to be properly adjusted and maintained; and to be equipped with mufflers in accordance with OSHA standards. COA 9.10 requires the greatest possible distance between the stationary construction equipment and the sensitive receptors near the project site. COA 2.17 requires the greatest possible distance between the staging areas and the sensitive receptors near the project site. COA 9.5 limits idling times to no longer than 5 minutes when not in use.

Implementation of the above COAs would reduce construction-period noise at the nearby sensitive receptors to the extent feasible. However, the amount of noise reduction that would result from implementation of the COAs is not practicably quantifiable, and the construction of the proposed project could still generate noise levels that conflict with the maximum noise limits at the producer's property plane established by Foster City Municipal Code regulations. As a result, the potential of the proposed project to generate noise levels that would exceed City regulations is considered significant.

Therefore, implementation of the following mitigation measure would be required to further reduce potential construction-period noise impacts for the indicated sensitive receptors.

Mitigation Measure NOI-1: The project contractor shall implement the following measures, where feasible, during construction of the project:

- Electrical power, rather than diesel equipment, shall be used to run compressors and similar power tools and to power temporary structures, such as construction trailers or caretaker facilities.
- All noise from workers' radios shall be controlled to a point that they are not audible at sensitive receptors near construction activity.
- Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. (LTS)

Implementation of the City's COAs and Mitigation Measure NOI-1 would ensure that construction activity is limited to the less noise-sensitive periods of the day and that potential construction-period noise experienced by noise-sensitive receptors is reduced to the extent feasible. With implementation of the City's COAs and Mitigation Measure NOI-1, construction period noise generated by the proposed project would be temporary, reduced to the extent

feasible, and would comply with the City's construction noise requirements; therefore, this impact would be less than significant.

Operational Noise Impacts. The project would generate long-term noise impacts from traffic, stationary, and other operational noise sources, as discussed below.

Traffic Noise Impacts. Motor vehicles with their distinctive noise characteristics are the dominant noise source in the project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer.

Implementation of the proposed project would result in new daily trips on local roadways in the project site vicinity, as estimated in the Transportation Impact Assessment (TIA)[7] prepared for the proposed project. Average daily trips for existing and existing plus project scenarios were calculated for 4 intersections and 16 roadway segments studied in the TIA. Of the 16 roadway segments calculated, project traffic along Chess Drive east of Foster City Boulevard would cause the highest increase in noise levels, approximately 0.2 dBA L_{dn} based on the following equation:

$$Change\ in\ (dBA) = 10 * \log_{10}\left(\frac{Future\ Volume}{Current\ Volume}\right)$$

Noise levels would increase by 0.2 dBA L_{dn} or less on all other roadway segments studied, and daily project trips would not result in a perceptible noise increase along any roadway segment in the project vicinity. Therefore, traffic noise impacts as a result of the project would be less than significant.

Stationary Source Noise Impacts. Stationary noise sources associated with the proposed project could include heating, ventilation, and air conditioning (HVAC) mechanical equipment and social activities on the proposed roof terrace.

Of the on-site stationary noise sources during operation of the project, noise from parking lot activities would generate the most consistent noise levels. Based on reference noise measurements LSA previously conducted, HVAC related noise would generate noise levels of approximately 75 dBA L_{eq} at 3 feet.

The proposed project would include a roof terrace, the use of which could cause an increase in ambient noise levels in the vicinity of the project site with social activities or company events. Recreational activity, including voices, typically generates maximum noise levels of 70 dBA L_{max} at 50 feet.

The closest sensitive receptors include the hotel guest rooms across Chess Drive, approximately 520 feet south of the proposed terrace. Adjusted for distance, the nearest sensitive receptors would be exposed to a noise level of approximately 30 dBA L_{eq} generated

7 Fehr & Peers. 2021. 388 Vintage Park Drive Transportation Impact Assessment. October 8.

by HVAC operations and 50 dBA L_{max} generated by recreational activities. With a noise level of 30 dBA L_{eq} associated with HVAC noise operations, noise levels would be below both the daytime and nighttime noise standards of 60 dBA L_{eq} and 55 dBA L_{eq} for sources that operate for more than 3 minutes in a given hour. Additionally, noise levels of 50 dBA L_{max} generated due to recreational activities on the project's roof terrace are expected to occur during the daytime hours of 7:30 a.m. and 10:00 p.m. only, and would be less than the 65 dBA noise standard for noise lasting 3 minutes or less. Lastly, these activities would not cause an increase in noise levels of more than 3 dBA. Therefore, it is not expected that the proposed project would substantially increase noise levels over existing conditions, would comply with the City's Municipal Code standards, and impacts would be less than significant.

Land Use Compatibility Assessment. The City sets forth normally acceptable noise level standards for land use compatibility and noise exposure of new developments. As identified above, the project site is exposed to noise levels between 59.0 dBA and 64.3 dBA L_{dn}, primarily associated with vehicle traffic noise. Based on the City's noise and land use compatibility standards, noise levels up to 65 dBA L_{dn} are considered normally acceptable for office buildings and business commercial uses. Therefore, the proposed office land use is compatible with the City's noise standards and implementation of COA 7.1 is not required.

2) Generate excessive groundborne vibration

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.Typical sources of ground-borne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment), and occasional traffic on rough roads. In general, ground-borne vibration from standard construction practices would result in impacts when construction takes place within 25 feet of sensitive structures. Ground-borne vibration levels from construction activities very rarely reach levels that can damage structures; however, these levels are perceptible near the active construction site. With the exception of older buildings built prior to the 1950s or buildings of historic significance, potential structural damage from heavy construction activities rarely occurs. When roadways are smooth, vibration from traffic (even heavy trucks) is rarely perceptible.

The streets surrounding the project area are paved, smooth, and unlikely to cause significant ground-borne vibration. In addition, the rubber tires and suspension systems of buses and other on-road vehicles make it unusual for on-road vehicles to cause ground-borne vibration problems. It is, therefore, assumed that no such vehicular vibration impacts would occur and, therefore, no vibration impact analysis of on-road vehicles is necessary. Additionally, once constructed, the

proposed project would not contain uses that would generate ground-borne vibration. This impact would be less than significant.

Construction Vibration. Construction of the proposed project could result in the generation of ground-borne vibration. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and assesses the potential for building damages using vibration levels in PPV (in/sec). As shown in Table 4.6.D., the FTA Manual guidelines indicate that a vibration level up to 0.5 in/sec PPV is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 0.2 in/sec PPV. Additionally, as shown in Table 4.6.E, the FTA Manual, the level at which annoyance would occur within residences and buildings where people normally sleep is 72 VdB for frequent events.

Table 4.6.I shows the reference PPV and VdB values at 25 feet from a construction vibration source. As shown in Table 4.6.I, bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 87 VdB or 0.089 PPV in/sec of ground-borne vibration when measured at 25 feet, based on the FTA Manual.

Table 4.6.I: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
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

Sources: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
µin/sec = microinches per second
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

Outdoor site preparation for the proposed project is expected to include the use of bulldozers and loaded trucks. The greatest levels of vibration are anticipated to take place during the site preparation and grading phases. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the location where construction equipment would be used. The formula for vibration transmission is provided below.

$$L_vdB\ (D) = L_vdB\ (25\ ft) - 30\ Log\ (D/25)$$
$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

The closest structure to the proposed building is the office building across Vintage Park Drive, which is approximately 150 feet east of the proposed building. Based on distance attenuation, the receptors would experience vibration levels of up to 0.044 PPV. This vibration level at the closest structures from construction equipment would not exceed the FTA threshold of 0.2 in/sec PPV for building damage.

Additionally, at a distance of 150 from construction activities, vibration levels would be up to 64 VdB and would remain below the 72 VdB annoyance thresholds. Furthermore, construction of the project would be subject to COA 2.9 and COA 9.1. Implementation of COA 2.9 would allow sources of potentially disruptive construction vibration to be quickly controlled or eliminated by designating a noise disturbance coordinator who will determine the cause of the noise/vibration complaints and institute reasonable measures warranted to correct the problem. COA 9.1 limits construction hours to between 8:00 a.m. and 5:00 p.m. on weekdays, which would limit any impacts to normal daytime hours, thereby reducing the likelihood of disturbing nearby sensitive receptors (i.e., through interfering with sleep). Therefore, with compliance with COA 2.9 and COA 9.1, ground-borne vibration impacts from construction activities associated with the proposed project would be less than significant.

3) Exposure to excessive noise levels due to proximity to an airport

As previously discussed, the project site is 3.7 miles north of the San Carlos Airport and approximately 5.5 miles southeast of SFO.[8] The site is within Area A of the AIA Boundary of the San Carlos Airport, where requirements for real estate disclosure are mandatory due to potential noise issues. The project site is also within Area B of the AIA Boundary of SFO, where land development proposals shall be reviewed by the Airport Land Use Commission. In addition, real estate disclosures are also mandatory. Although aircraft-related noise is occasionally audible on the project site, the site does not lie within the 65 dBA CNEL noise contours[9,10] of either of these airports. Therefore, the proposed project would not expose people working in or visiting the project area to excessive noise levels and no impact would occur.

4.6.2.3 Cumulative Impacts

For the topic of noise, the scope for assessing cumulative impacts encompasses past, current, or probable future projects under review by the City and near the project site, as well as applicable planning level documents that affect the transportation network (i.e., land use assumptions from the General Plan that would increase trips on area roadways, thereby increasing traffic noise). As described above, project trips would represent a small increase in noise levels, up to approximately 0.2 dBA L_{dn}, which would not exceed the 3 dBA increase considered to be perceptible by the human ear in an outdoor environment. Given the small increase in noise levels generated by the proposed

8 Federal Aviation Administration. 2021. Airport Data and Contact Information. Effective July 15, 2021. Database searched for both public-use and private-use facilities in San Mateo County. Website: http://www.faa.gov/airports/airport_safety/airportdata_5010/ (accessed July 19, 2021).

9 City/County Association of Governments of San Mateo County, 2015. *Comprehensive Airport Land Use Compatibility Plan For the Environs of San Carlos Airport.* October.

10 City/County Association of Governments of San Mateo County, 2012. *Comprehensive Airport Land Use Compatibility Plan For the Environs of San Francisco International Airport.* November.

project on the transportation network and location of cumulative projects (see discussion in the introduction to Chapter 4, Setting, Impacts and Mitigation Measures) and anticipated increase in traffic noise anticipated in the vicinity, the proposed project would not result in a cumulatively considerable increase in transportation-related noise.

A significant cumulative impact would also occur if implementation of the proposed project would combine with other cumulative development projects to result in a permanent increase of 3 dBA or more in ambient noise levels at the existing sensitive receptors in the project site vicinity that are currently exposed to noise levels above the City's normally acceptable threshold for that type of land use. As discussed above, long-term operation of the proposed project would not create a significant increase in stationary source noise, including noise associated with recreational activities, parking lot activities, and HVAC equipment. Because cumulative development projects are not immediately adjacent to the project site, permanent increases in noise generated by these projects would not combine with the noise levels generated by the proposed project to create a cumulatively considerable increase in ambient noise levels, and this impact would be less than significant.

With implementation of Mitigation Measure NOI-1 and the City's applicable COAs, the proposed project would not result in adverse noise impacts from construction activities. Although the proposed project may be under construction at the same time as one or more cumulative development projects, each project would be required to implement similar measures as those identified in Mitigation Measure NOI-1 to ensure that construction noise levels are reduced to the extent feasible and to ensure that construction activities comply with the City's Noise Ordinance. In addition, construction-related noise impacts would be temporary and would no longer occur once construction of each project is completed. Therefore, construction activities would not be considered a cumulatively considerable contribution to the total noise environment in the project site vicinity and this impact would be less than significant.

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section describes existing conditions related to hazards and hazardous materials at the project site; discusses the applicable federal, State, regional and local regulatory considerations; and evaluates the potential impacts of the proposed project related to hazards and hazardous materials during both construction and operation. It identifies, where appropriate, standard Conditions of Approval (COAs) and/or mitigation measures to reduce or avoid significant impacts.

4.7.1 Setting

This section describes the existing conditions related to hazards and hazardous materials at and near the project site, as well as the applicable federal, State, regional and local regulatory framework.

4.7.1.1 Historical and Current Land Uses

The project site vicinity was historically marshland, which was dried out and was converted to hay fields for a dairy farm in the early 1900s. In the late 1950s, the project site vicinity was artificially filled with dredged sand to create buildable lands.[1] The existing building on the project site was constructed in 1985 and was originally leased by El Torito restaurant, which occupied the project site until 2018. The project site has been vacant since about 2018. No documented hazardous materials releases or subsurface contamination have been reported at the project site.[2]

4.7.1.2 Regulatory Framework

The use, storage, and disposal of hazardous materials, including management of contaminated soils and groundwater, is regulated by numerous federal, State, and local laws and regulations. The following describes the applicable federal, State, and regional agencies' jurisdiction in the management of hazards and hazardous materials is described below.

Federal. At the federal level, the United States Environmental Protection Agency (USEPA) administers hazardous materials and hazardous waste regulations, the Occupational Safety and Health Administration (OSHA) regulates worker safety related to hazardous materials handling, and the United States Department of Transportation (DOT) regulates hazardous waste transportation.

> ***United States Environmental Protection Agency.*** The USEPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily codified in Title 40 of the Code of Federal Regulations. The legislation includes the Resource Conservation and Recovery Act (RCRA) of 1976; the Toxic Substances Control Act of 1976; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980; and the Superfund Amendments and Reauthorization Acts of 1986. The USEPA provides oversight for site

[1] Tom Origer & Associates. 2016. Historical Evaluation of the Foster City Levees San Mateo County, California. June 21.

[2] Haley & Aldrich, Inc. 2020. Draft Report on ASTM Phase I Environmental Site Assessment, 388 Vintage Park Drive, Foster City, California. October.

investigation and remediation projects, and has developed protocols for sampling, testing, and evaluating solid wastes.[3]

Occupational Safety and Health Administration. OSHA regulates worker health and safety at the federal level. The federal Occupational Safety and Health Act of 1970 authorizes the states to establish their own safety and health programs with OSHA approval. Worker health and safety protections in California are regulated by the California Occupational Safety and Health Administration (Cal/OSHA), as described below. California standards for workers dealing with hazardous materials are contained in Title 8 of the California Code of Regulations (CCR); they include practices for all industries (General Industrial Safety Orders), as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

Department of Transportation. In 1990 and 1994, the federal Hazardous Material Transportation Act was amended to improve the protection of life, property, and the environment from the inherent risks of transporting hazardous material in all major modes of commerce. The DOT developed hazardous materials regulations, which govern the classification, packaging, communication, transportation, and handling of hazardous materials, as well as employee training and incident reporting. The transportation of hazardous materials is subject to both RCRA and DOT regulations. The California Highway Patrol, California Department of Transportation, and the Department of Toxic Substances Control (DTSC) are responsible for enforcing federal and State regulations pertaining to the transportation of hazardous materials.

State Agencies. At the State level, the California Environmental Protection Agency (CalEPA), which includes DTSC and the State Water Resources Control Board (State Water Board), administers hazardous materials and hazardous waste regulations, the California Air Resources Board (CARB) regulates air pollution control programs, Cal/OSHA regulates worker safety related to hazardous materials handling, and the California Office of the State Fire Marshal (OSFM) develops and implements fire prevention engineering, education, and enforcement.

Department of Toxic Substances Control. In California, the DTSC is authorized by the USEPA to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials are generally as stringent as, or more stringent than, the federal regulation requirements. Most State hazardous materials regulations are contained in Title 22 of the CCR. The DTSC generally acts as the lead agency for soil and groundwater cleanup projects that have the potential to affect public health and establishes cleanup levels for subsurface contamination that are equal to, or more restrictive than, federal levels. The DTSC

[3] United States Environmental Protection Agency, 2021. Hazardous Waste Test Methods/ SW-846. Website updated June 8, 2020. Website: www.epa.gov/hw-sw846 (accessed July 16, 2021).

has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

State Water Resources Control Board. The State Water Board enforces regulations on implementation of underground storage tank programs. It also allocates funding to eligible parties that request reimbursement of costs to clean up soil and groundwater pollution from underground storage tank leaks. The State Water Board also enforces the Porter-Cologne Water Quality Act through its nine Regional Water Boards.

California Air Resources Board. The CARB is responsible for coordination and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards and is responsible for monitoring air quality in conjunction with the local air districts.

California Occupational Safety and Health Administration. Cal/OSHA regulates worker health and safety protections in California. California standards for workers dealing with hazardous materials are contained in Title 8 of the CCR; they include practices for all industries (General Industrial Safety Orders), as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

California Office of the State Fire Marshal. The OSFM is the CAL FIRE program that protects life and property through the development and application of fire prevention, engineering, training and education, and enforcement. The OSFM regulates buildings in which people live, congregate, or are confined; controls substances which may, in and of themselves or by their misuse, cause injuries, death and destruction by fire; provides statewide direction for fire prevention within wildland areas; regulates hazardous liquid pipelines; develops and reviews regulations and building standards; and provides training and education in fire protection methods and responsibilities.

Regional and Local Agencies. The following regional and local agencies have regulatory authority over the proposed project's management of hazardous materials and hazards.

San Francisco Bay Regional Water Quality Control Board. The San Francisco Bay Regional Water Quality Control Board is one of the nine Regional Water Boards that protect Waters of the State in accordance with the Porter-Cologne Water Quality Act of 1969. The Regional Water Boards can act as a lead agency to provide oversight of sites where the quality of groundwater or surface waters is threatened and have the authority to require investigations and remedial actions. The San Francisco Bay Regional Water Quality Control Board has developed Environmental Screening Levels (ESLs) for residential and non-residential land uses to help expedite the preparation of environmental risk assessments at sites where contaminated soil and groundwater have been identified.

Bay Area Air Quality Management District. The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of the USEPA and the CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, controlling stationary air pollutant sources, and issuing air quality permits for various activities including asbestos demolition and renovation activities (District Regulation 11, Rule 2).

San Mateo County Environmental Health Services. San Mateo County Environmental Health Services (SMCEHS) is the primary agency responsible for local enforcement of State and federal laws pertaining to hazardous materials management, including in Foster City. SMCEHS is a Certified Unified Program Agency; it is responsible for the Hazardous Materials Business Plan Program, the Hazardous Waste Generator Program, the Tiered Permitting Program, the Underground Storage Tank Program, the California Accidental Release Prevention Program, and electronic reporting.[4]

City of Foster City General Plan. The Safety Element of the City of Foster City's (City) General Plan[5] contains the following safety goals, policies, and programs related to hazardous materials, fire, and emergency preparedness.

- **Goal S-B:** Emergency Response. Maintain an effective emergency response program that anticipates the potential for disasters and ensures the ability to respond promptly, efficiently and effectively, to provide continuity of services during and after an emergency.

- **Policy S-B-1:** Emergency Response. The City will prepare to respond to emergencies through the City's Emergency Operations Plan, training, and other measures.

- **Program S-B-1-a**: Emergency Response. The City will prepare to respond to emergencies through use of established procedures, programs of on-going training, periodic exercises of the City's Emergency Operations Plan, and mutual aid agreements.

- **Program S-B-1-b**: Emergency Plan. The City will maintain the City's Emergency Operations Plan indicating responsibilities and procedures for responding to an emergency.

- **Policy S-B-2**: Emergency Preparedness. The City will plan for and provide facilities and materials anticipated to be needed to respond to emergencies.

- **Goal S-C**: Long-term community resilience. Ensure the long-term community resilience of the community by improving the resiliency to hazards, protecting the environment and planning for post-disaster recovery.

[4] County of San Mateo. 2021. Certified Unified Program Agency. Website: https://www.smchealth.org/hazardous-materials-cupa (accessed July 19, 2021).

[5] Foster City, City of. 2016b. Foster City Local Hazard Mitigation Plan & Safety Element. Adopted November 21.

- **Policy S-C-4:** Minimize Loss of Life, Injuries, and Property Damage Due to Fires. The City will minimize loss of life, injuries, and property damage due to fires through review of development proposals, public education, and maintenance of well-trained fire suppression personnel.

- **Program S-C-4-a:** Development Review for Fire Safety. The City will review proposals for new and modified buildings to ensure that fire safety provisions are included as required by the most current uniform codes and local regulations.

- **Program S-C-4-c:** Fire Sprinklers. Require fire sprinklers in all new or substantially remodeled housing, regardless of distance from a fire station.

- **Policy S-C-5:** Hazardous Materials. The City will protect the community from unreasonable risks associated with hazardous materials.

- **Program S-C-5-a:** Hazardous Materials. The City will continue to enforce applicable codes related to hazardous materials.

Emergency Evacuation Plans. According to the Safety Element of the City's General Plan, evacuation routes can include a roadway, waterway, or trail that will allow the orderly removal of people and possessions from an area endangered due to floods, hazardous materials, spills, or other emergency. However, evacuation by water is not likely to be useful in Foster City due to the fact that both the Foster City Lagoon and San Mateo's Marina Lagoon are enclosed waterways and boats suitable for evacuation of large numbers of people are not available. The use of any particular evacuation route would depend on the type and location of a specific emergency, which, if any, routes had sustained damage, and many other factors. Selection of evacuation routes in an emergency would be under the purview of law enforcement and/or the City's Emergency Services Director, usually the City Manager.

Foster City Standard Conditions of Approval. The following COAs related to hazards and hazardous materials, which the City routinely includes as conditions of project approval, would apply to the proposed project. The City is committed to requiring the project contractor(s) to implement these conditions and would require them as conditions to the contract approval.

- **COA 2.17:** Prior to commencement of any site work or placement of any construction trailers, the applicant shall submit a Site Logistics Plan showing proposed haul routes, placement of the construction trailers (if any) and areas for materials/equipment materials/ equipment delivery, materials/equipment storage, waste collection and maintenance/fueling of vehicles/equipment. The Site Logistics Plan shall be subject to approval by the Community Development Director.

    - The Site Logistics Plan designated storage areas for material delivery, storage, and waste collection shall be as far away from catch basins, gutters, drainage courses, and water bodies as possible. All hazardous materials and wastes used or generated during project site development activities shall be labeled and stored in accordance with applicable local, state, and federal regulations. In addition, an accurate up-to-date inventory,

including Material Safety Data Sheets, shall be maintained on-site to assist emergency response personnel in the event of a hazardous materials incident.

- The Site Logistics Plan designated area for all maintenance and fueling of vehicles and equipment shall be bermed or over a drip pan that will not allow run-off of spills. Vehicles and equipment shall be regularly checked and have leaks repaired promptly at an off-site location. Secondary containment shall be used to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured.

- The Site Logistics Plan shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

- **COA 2.18:** The applicant shall prepare a project-specific Construction Risk Management Plan (CRMP) to protect construction workers, the general public, and the environment from subsurface hazardous materials previously identified and to address the possibility of encountering unknown contamination or hazards in the subsurface. The CRMP shall:

  - Provide procedures for evaluating, handling, storing, testing and disposing of soil and groundwater during project excavation and dewatering activities, respectively;

  - Require the preparation of a project specific Health and Safety Plan that identifies hazardous materials present, describes required health and safety provisions and training for all workers potentially exposed to hazardous materials in accordance with state and federal worker safety regulations, and designates the personnel responsible for Health and Safety Plan implementation;

  - Require the preparation of a Contingency Plan that shall be applied should previously unknown hazardous materials be encountered during construction activities. The Contingency Plan shall be developed by the contractor(s), with the approval of the City and/or appropriate regulatory agency, prior to demolition or issuance of the first building permit. The Contingency Plan shall include provisions that require collection of soil and/or groundwater samples in the newly discovered affected area by a qualified environmental professional prior to further work, as appropriate. The samples shall be submitted for laboratory analysis by a state-certified laboratory under chain-of-custody procedures. The analytical methods shall be selected by the environmental professional. The analytical results of the sampling shall be reviewed by the qualified environmental professional and submitted to the appropriate regulatory agency, if appropriate. The environmental professional shall provide recommendations, as applicable, regarding soil/waste management, worker health and safety training, and regulatory agency notifications, in accordance with local, state, and federal requirements. Work shall not resume in the area(s) affected until these recommendations have been implemented under the oversight of the City of regulatory agency, as appropriate; and

- Designate personnel responsible for implementation of the CRMP. The CRMP shall be submitted to the Fire Department for review and approval prior to construction activities.

- Emergency Preparedness and Response Procedures shall be developed by the contractor(s) for emergency notification in the event of an accidental spill or other hazardous materials emergency during project site preparation and development activities. These Procedures shall include evacuation procedures, spill containment procedures, required personal protective equipment, as appropriate, in responding to the emergency. The contractor(s) shall submit these procedures to the City prior to demolition or development activities.

- **COA 2.19:** The contractor shall prepare a Waste Disposal and Hazardous Materials Transportation Plan prior to construction activities where hazardous materials or materials requiring off-site disposal would be generated. The Plan shall include a description of analytical methods for characterizing wastes, handling methods required to minimize the potential for exposure, and shall establish procedures for the safe storage of contaminated materials, stockpiling of soils, and storage of dewatered groundwater. The required disposal method for contaminated materials (including any lead-based paint, asbestos, or other hazardous building materials requiring disposal), the approved disposal site, and specific routes used for transport of wastes to and from the project site shall be indicated. The Plan shall be prepared prior to demolition or development activities and submitted to the City.

- **COA 3.1:** Prior to issuance of a demolition permit for structures located on the project site, a lead-based paint, hazardous building materials survey (PCBs, mercury), and asbestos survey (for those structures not previously surveyed) shall be performed by a qualified environmental professional. Based on the findings of the survey, all loose and peeling lead-based paint, and identified asbestos hazards shall be abated by a certified contractor in accordance with local, state, and federal requirements (including the requirements of the BAAQMD, District Regulation 11, Rule 20) and requirements for worker health and safety.

- **COA 3.4:** Hazardous materials and wastes generated during demolition activities, such as fluorescent light tubes, mercury switches, lead based paint, asbestos containing materials, and PCB wastes, and subsurface hazardous building materials generated during grading and trenching activities, such as asbestos-cement piping, shall be managed and disposed of in accordance with the applicable universal waste and hazardous waste regulations. Federal and state construction worker health and safety regulations shall apply to the removal of hazardous building materials and demolition activities, and any required worker health and safety procedures shall be incorporated into the contractor's specifications for the project. Documentation of the surveys and abatement activities shall be provided to the City prior to the demolition of structures located at the project site.

- **COA 9.13:** If the presence of hazardous materials is found on site, site remediation may be required by the applicable state or local regulatory agencies. Specific remedies would depend on the extent and magnitude of contamination and requirements of the regulatory

agency(ies). Under the direction of the regulatory agency(ies) and the City, a Site Remediation Plan shall be prepared, as required, by the applicant. The Plan shall: 1) specify measures to be taken to protect workers and the public from exposure to the potential hazards and, 2) certify that the proposed remediation would protect the public health in accordance with local, state, and federal requirements, considering the land use proposed. Excavation and earthworking activities associated with the proposed project shall not proceed until the Site Remediation Plan has been reviewed and approved by the regulatory oversight agency and is on file with the City.

- **COA 9.14:** Engineering fill brought on-site shall be demonstrated, by analytical testing, not to pose an unacceptable risk to human health or the environment. Threshold criteria for acceptance of engineered fill shall be selected based on screening levels and protocols developed by regulatory agencies for protection of human health and leaching to groundwater (e.g., Water Board ESLs). The engineered fill shall be characterized by representative sampling in accordance with U.S. EPA's SW-846 Test Methods, by a qualified environmental professional and demonstrated to meet the threshold criteria above. The results of the sampling and waste characterization shall be submitted by the contractor(s) to the City and SMCEHD prior to construction.

4.7.2 Impacts and Mitigation Measures

This section discusses potential impacts to hazardous materials that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies applicable COAs, as appropriate, to address these impacts.

4.7.2.1 Criteria of Significance

A significant hazardous material or public health and safety impact would occur if the proposed project would:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

5) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;

6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

7) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.7.2.2 Project Impacts

The following section describes the potential impacts of the project related to hazards and hazardous materials. Potential impacts are differentiated between the construction and operation phases of the project, where applicable.

1) Create a significant hazard due to routine transportation, use, or disposal of hazardous materials

The proposed project would result in demolition of the existing restaurant building and parking lots to develop a new building that would be used for a life science laboratory and office space. Hazardous materials (e.g., oil, grease, fuels, paint) would be transported, stored, and used onsite for proposed construction activities. The routine handling, storage, and use of hazardous materials by construction workers would be performed in accordance with OSHA regulations, which include training requirements for construction workers and a requirement that hazardous materials are accompanied by manufacturer's Safety Data Sheets (SDSs). Cal/OSHA regulations include requirements for protective clothing, training, and limits on exposure to hazardous materials. Compliance with these existing regulations would ensure that construction workers are protected from exposure to hazardous materials that may be used on site.

Because the proposed project would disturb soil on more than 1 acre of land, management of soil and hazardous materials during construction activities would be subject to the requirements of the State Water Board's Construction General Permit (described in detail under Section 3.10, Hydrology and Water Quality of the Initial Study included in Appendix B), which requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes hazardous materials storage protocols. For example, construction site operators must store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

Construction of the proposed project would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that may be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by the DOT, the RCRA, and State regulations.

In addition to the regulations discussed above, COA 2.17 requires appropriate storage, handling, and disposal procedures for hazardous materials during construction. Specifically, COA 2.17 requires the contractor(s) to designate storage areas suitable for material delivery, storage, and waste collection; all hazardous materials and wastes used or generated during project site development activities are to be labeled and stored in accordance with applicable local, State, and federal regulations; and an accurate up-to-date inventory of hazardous materials, including SDSs, is to be maintained on site to assist emergency response personnel in the event of a hazardous materials incident.

The operational phase of the proposed project may also include storage and use of hazardous materials (e.g., laboratory chemicals and wastes) on the project site. In addition, equipment installed at the project site, such as hydraulic elevator systems and backup generators, may involve the use and storage of hydraulic fluid, fuels, and other hazardous materials. The routine transport, use, or disposal of these hazardous materials could pose a potential hazard to future employees working at the project site as they would be handling the hazardous materials and could therefore be exposed through inhalation of vapors, direct contact with skin, or accidental ingestion. All future uses on the site would be subject to existing regulatory programs for hazardous materials. A Hazardous Materials Business Plan, in compliance with the Hazardous Materials Business Plan Program of SMCEHS, must be submitted to SMCEHS within 30 days of handling or storing a hazardous material equal to or greater than the minimum reportable quantities: 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases.

Compliance with existing regulations and COA 2.17, described above, would ensure that potential impacts from the routine transport, storage, use, or disposal of hazardous materials during construction and operation of the proposed project would be less than significant.

2) Create a significant hazard due to accidental release of hazardous materials

An accidental release of hazardous materials (e.g., oils, fuels, solvents, or paints) during project construction could result in exposure of construction workers, the public, and/or the environment to hazardous materials. As discussed above, the proposed project would be subject to the requirements of the Construction General Permit, which requires preparation and implementation of a SWPPP to reduce the risk of spills or leaks from reaching the environment, including procedures to address minor spills of hazardous materials. Measures to control spills, leakage, and dumping must be addressed through structural as well as nonstructural best management practices (BMPs), as required by the Construction General Permit. For example, equipment and materials for cleanup of spills must be available on site, and spills and leaks must be cleaned up immediately and disposed of properly. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

As discussed above, the transportation of hazardous materials is subject to both RCRA and DOT regulations. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill), and is responsible for the discharge cleanup.

Based on the findings of a Phase I Environmental Site Assessment prepared for the project site, there is no known or suspected soil or groundwater contamination on the project site.[6] The proposed project would result in the demolition of the existing restaurant building and parking lots. As required by COA 3.1, a lead-based paint, hazardous building materials survey (polychlorinated biphenyls [PCBs], mercury), and asbestos survey (for those structures not previously surveyed) shall be performed by a qualified environmental professional prior to issuance of a demolition permit for structures located on the project site. Based on the findings of the survey, all loose and peeling lead-based paint and identified asbestos hazards shall be abated by a certified contractor in accordance with local, State, and federal requirements and requirements for worker health and safety. As required by COA 2.19, a Waste Disposal and Hazardous Materials Transportation Plan shall be prepared prior to construction activities where hazardous materials or materials requiring off-site disposal would be generated. COA 3.4 requires hazardous materials and wastes generated during demolition activities, such as fluorescent light tubes, mercury switches, lead-based paint, asbestos containing materials, PCB wastes, and subsurface hazardous building materials generated during grading and trenching activities, such as asbestos-cement piping, to be managed and disposed of in accordance with the applicable universal waste and hazardous waste regulations.

In addition, COA 2.17 requires the designation of storage areas suitable for material delivery, storage, and waste collection. COA 2.18 requires a CRMP to be prepared to protect construction workers, the general public, and the environment from subsurface hazardous materials previously identified in addition to unknown contamination or hazards potentially encountered in the subsurface. If subsurface contamination is encountered, COA 9.13 requires a Site Remediation Plan to be developed.

Compliance with existing regulations and COAs 2.17, 2.18, 2.19, 3.1, 3.4, and 9.13 would ensure that potential impacts from an accidental release of hazardous materials would be less than significant.

3) Emit hazardous materials within a quarter miles of a school

No schools were identified within 0.25 mile of the project site. The closest school to the project site is Futures Academy, about 1,400 feet (about 0.27 mile) southwest of the project site. The proposed project would not involve the handling of acutely hazardous materials. Compliance with existing regulations and COAs described under “Routine Transport, Use, and Disposal of Hazardous Materials” and “Accidental Release of Hazardous Materials” would prevent hazardous emissions during the construction of the proposed project, and would thereby prevent a significant risk of sensitive receptor exposure to hazardous materials, substances, or waste. Therefore, the risks associated with emissions of hazardous materials within 0.25 mile of a school would be considered less than significant.

[6] Haley & Aldrich, Inc., 2020. Draft Report on ASTM Phase I Environmental Site Assessment, 388 Vintage Park Drive, Foster City, California. October.

4) Create a significant hazard due to listing on a hazardous materials sites compiled pursuant to Government Code Section 65962.5

The project site is not included on any of the lists of hazardous materials release sites compiled pursuant to Government Code Section 65962.5, also known as the "Cortese List".[7] Therefore, the proposed project would not result in impacts related to being included on a list of hazardous materials release sites compiled pursuant to Government Code Section 65962.5.

5) Result in a safety hazard or excessive noise due to proximity to an airport

The project site is 3.7 miles north of San Carlos Airport and approximately 5.5 miles southeast of San Francisco International Airport (SFO).[8] The project site is within Area A of the Airport Influence Area (AIA) Boundary of the San Carlos airport, where requirements for real estate disclosure are mandatory due to potential noise issues. Formal review of projects for potential obstruction issues is limited to Area B of the AIA, within a 9,000-foot radius of San Carlos Airport.[9] Because the project is not within AIA B of the San Carlos Airport, the project is not required to be reviewed for potential obstruction issues.

The project site is within Area B of the AIA Boundary of SFO, where the land development proposals shall be reviewed by the Airport Land Use Commission.[10] This would ensure the project would not include any land uses that would cause a hazard to air navigation within the vicinity of SFO.[11] In addition, the building heights for the proposed project (approximately 68 feet to the top of the parapet, and approximately 79 feet to the top of the penthouse) are well below the maximum height of 210 feet at which structures can be considered compatible with operations of the SFO;[12] therefore, the project would not be expected to interfere with aircraft and would not pose a hazard to persons occupying structures. Therefore, potential aviation hazards for the project would be less than significant.

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7 California Environmental Protection Agency. 2021. Cortese List Data Resources. Website: calepa.ca.gov/sitecleanup/corteselist (accessed July 19, 2021).

8 Federal Aviation Administration. 2021. Airport Data and Contact Information. Effective July 15, 2021. Database searched for both public-use and private-use facilities in San Mateo County. Website: http://www.faa.gov/airports/airport_safety/airportdata_5010/ (accessed July 19, 2021).

9 ESA. 2015. Final Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport, October. Website: http://ccag.ca.gov/plansreportslibrary/airport-land-use/ (accessed July 19, 2021).

10 City/County Association of Governments of San Mateo County. 2012. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport. November. Website: http://ccag.ca.gov/plansreportslibrary/airport-land-use/ (accessed July 19, 2021).

11 Land uses that could cause a hazard to air navigation within SFO AIA B include (1) sources of glare; (2) distracting lights that could be mistaken for airport identification lighting; (3) sources of dust, smoke, or water vapor; (4) sources of electrical interference; (5) sources of significant thermal plumes; and (6) any land use that would attract large concentrations of wildlife, particularly flocks of birds.

12 City/County Association of Governments of San Mateo County. 2012. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport. November. Website: http://ccag.ca.gov/plansreportslibrary/airport-land-use/ (accessed July 19, 2021).

6) Impair implementation of or physically interfere with an emergency response or evacuation plan

Construction of the proposed project could require the temporary closure of portions of streets adjacent to the project site. Traffic control requirements imposed by the City for the permitting of temporary closure of street areas would ensure that appropriate emergency access is maintained at all times during construction activities. The proposed project would not permanently alter roadways in the vicinity of the project site. Therefore, the proposed project would have a less than significant impact related to impeding or interfering with emergency response or evacuation plans.

7) Exposure to wildland fires

The project site is within a highly urbanized area and is not near heavily vegetated areas or wildlands that could be susceptible to wildfire. The project site is in a Local Responsibility Area and is not identified as a Very High Fire Hazard Severity Zone as mapped by CAL FIRE. [13] Therefore, the proposed project would have a less than significant impact related to wildland fire hazards.

4.7.2.3 Cumulative Impacts

As discussed above, accidents involving hazardous materials releases or building materials that may be impacted with hazardous materials during construction activities could result in adverse effects to construction workers, the public, or the environment. Occurrence of a cumulative effect would require that multiple projects release hazardous materials at the same time close to one another. Compliance with existing regulations and COAs 2.17, 2.18, 2.19, 3.1, 3.4, and 9.13 would ensure that potential construction period impacts associated with releases of hazardous materials are less than significant. Each site, including the proposed project, would be required to comply with existing hazardous materials regulations to reduce the risk of impacts associated with hazardous materials releases. Therefore, the potential for impacts associated with hazardous materials releases from the proposed project to combine with impacts associated with hazardous materials releases from other sites is not cumulatively considerable.

[13] CAL FIRE. 2008. San Mateo County Very High Fire Hazard Severity Zones in LRA as recommended by CAL FIRE. November 24.

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4.8 PUBLIC SERVICES

This section analyzes and identifies the proposed project's potential impacts to public services, including fire and emergency medical services and polices services. Standard Conditions of Approval (COAs) and/or mitigation measures to reduce or avoid potentially significant air quality impacts are identified, where appropriate.

As described in the Initial Study prepared for the proposed project (included as Appendix B), the proposed project would have less than significant impacts related to schools, parks, recreation, and other public facilities, and therefore these topics are not further addressed in this EIR.

4.8.1 Setting

This section describes existing fire, emergency, and police services for the project site.

4.8.1.1 Fire Protection

In January of 2019, the fire departments of the cities of Belmont, Foster City, and San Mateo joined together as a Joint Powers Authority. This new fire department is known as the San Mateo Consolidated Fire Department (SMCFD) and provides fire suppression, prevention, life safety, and hazardous material response and containment services for Foster City, in addition to Belmont and San Mateo. SMCFD consists of nine fire stations strategically located throughout Foster City, Belmont, and San Mateo. SMCFD's staffing, facilities and equipment, and response times are described below.

Staffing. SMCFD currently has an authorized staff of 154 full-time employees and 3 part-time employees (or 157.01 full-time equivalent positions). Staff includes 84 firefighters, 39 captains, 7 battalion chiefs, 1 fire chief, 1 fire marshal, 1 deputy fire marshal, 3 fire inspectors, and 8 administrative staff.[1] Generally, each fire station in the SMCFD network has one fire engine staffed by one fire captain and two firefighters/engineers. Two stations have ladder trucks that staffed by one fire captain and three firefighter/engineers. One member of each engine company is a paramedic. Most of the firefighters have special skills including, but not limited to, rescue systems, confined space, swift water, and hazardous materials.[2] SMCFD staff also provide building and other development inspections.

Facilities and Equipment. The Foster City Fire Station 28 is at 1040 East Hillsdale Boulevard, 0.8 mile east of the project site. The station is continuously staffed by six firefighters and houses two fire engines and one water rescue boat. There are no currently planned improvements at this fire station, and there are no plans for the construction of new fire stations in the area.[3]

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1 Estero Municipal Improvement District (EMID). 2021. Final Budget, Fiscal Year 2021-2022. Website: https://www.fostercity.org/finance/page/annual-budget (accessed August 2021).

2 San Mateo Consolidated Fire Department (SMCFD). 2018. About Us. Website: https://www.smcfire.org/about-us (accessed August 2021).

3 SMCFD. 2020. San Mateo Consolidated Fire Department 2020 Annual Report. Website: www.smcfire.org/annual-reports (accessed August 2021).

Station 26 at 1500 Marina Court in San Mateo is the second closest station to the project site, approximately 1.5 miles to the southeast. The station is staffed by three firefighters and equipped with one fire engine.

Response Times. In 2020, the SMFCD responded to a total of 12,886 apparatus responses and various incidents.[4] The SMCFD's goal is to respond to 90 percent of all Priority 1 calls in under 7 minutes.[5] In 2020, the SMCFD's average response time in Foster City was approximately 5 minutes, 98 percent of the time.[6] In 2021, average response times to the area of the project site were approximately 4 minutes.

The SMCFD's current Insurance Service Office rating is Class 2 (1 being the highest and 10 being the lowest), upgraded from Class 3 in 2000. This rating considers a community's fire defense capacity versus its fire potential. The score is then used to set property insurance premiums for homeowners and commercial property owners.

4.8.1.2 Police Protection

The City of Foster City Police Department (FCPD) is at 1030 East Hillsdale Boulevard, adjacent to Fire Station 28, approximately 0.8 mile east of the project site. The FCPD has an authorized staff of 54, including 39 sworn officers.[7] Citywide, one supervisor and three to five officers are working at any given time.

Based on an estimated population of 33,901 in 2019,[8] the year for which the most current data is available, the current police officer-to-resident ratio is 0.6 sworn officers per 1,000 residents, which is below the City's target police officer-to-resident ratio of 1 to 1.5 sworn officers per 1,000 residents, the industry standard. This standard does not take daytime, non-resident populations into account. Generally, municipalities with land uses that significantly increase such populations, such as universities or large business parks, use the standard as a baseline and add officers as needed to serve those additional populations. The FCPD has not identified a standard that considers non-residents.

In 2020, the FCPD responded to 17,451 calls for service.[9] As of 2019, the most recent year for which the data are available, the average response time for non-emergency calls in Foster City was 7 minutes and 30 seconds. For emergency calls throughout the city, the average response time was 4

4 EMID. 2021. Final Budget, Fiscal Year 2021–2022. Website: https://www.fostercity.org/finance/page/annual-budget (accessed August 2021).

5 SMCFD. 2018. Field Operations. Website: https://www.smcfire.org/field-operations (accessed August 2021).

6 EMID. 2021. Final Budget, Fiscal Year 2021–2022. Website: www.fostercity.org/finance/page/annual-budget (accessed August 2021).

7 Ibid.

8 United States Census Bureau. 2019. QuickFacts. Available online at: https://www.census.gov/quickfacts/fact/table/fostercitycitycalifornia,US/PST045219 (accessed August 2021).

9 EMID. 2021. Final Budget, Fiscal Year 2021–2022. Website: www.fostercity.org/finance/page/annual-budget (accessed August 2021).

minutes and 58 seconds. The average response times for both non-emergency and emergency calls to the project site was the same as citywide averages.

4.8.1.3 Regulatory Setting

The following sections describes the regulatory setting for public services in Foster City, including the Foster City General Plan and COAs.

Foster City General Plan. The Foster City General Plan includes the following goals, policies, and programs that are related to fire and police services that would apply to the proposed project.

- **Goal LUC-F: Provide Adequate Services and Facilities.** Ensure that new and existing developments can be adequately served by municipal services and facilities.

- **Policy LUC-L-10: Adequacy of Public Infrastructure and Services.** New projects which require construction or expansion of public improvements shall pay their pro rata fair share of the costs necessary to improve or expand infrastructure necessary to serve them, including streets and street improvements, parks, water storage tanks, sewer and water service, and other public services. The City has established several assessment districts to pay for needed municipal improvements. Facilities benefiting a specific development must be provided by the developer of that project.

- **Policy S-C-4: Minimize Loss of Life, Injuries, and Property Damage Due to Fires.** The City will minimize loss of life injuries, and property damage due to fires through review of development proposals, public education, and maintenance of well-trained fire suppression personnel.

- **Program S-C-4-a: Development Review for Fire Safety.** The City will review proposals for new and modified buildings to ensure that fire safety provisions are included as required by the most current uniform codes and local regulations.

- **Program S-D-4-b: Development Review for Crime Prevention.** The City will review proposals for new and modified buildings for compliance with crime prevention requirements.

- **Policy S-E-2: Police Services.** The City will provide police services necessary to maintain community order and public safety.

- **Program S-E-1-a: Police Services.** The City will provide adequate personnel, training, and equipment to support the provision of police services.

Foster City Standard Conditions of Approval. The following COAs related to police and fire services would apply to the proposed project.

- **COA 5.10.3:** Water lines shall be designed for fire flows to meet California Fire Code and Fire Department requirements.

- **COA 5.10.4:** All on-site fire water service mains shall have two sources of supply connections to City/District water system, be looped and meet the requirements of the State Department of Health Services and the City Fire Marshal.

- **COA 5.10.6:** Prior to the issuance of a building permit, fire mains shall be designed to Fire Department specifications. Fire mains shall be constructed according to those specifications.

- **COA 6.12:** Prior to issuance of the architectural/structural shell, all emergency vehicle access and location of building numbers shall be identified to the satisfaction of the City.

- **COA 10.5.1:** Floor plans shall be provided in PDF format to the Fire and Police Departments.

- **COA 10.19:** Prior to occupancy the developer shall submit a letter to the Foster City Police Department verifying that the proposed project complies with all applicable requirements of Chapter 15.28, Burglar Security Ordinance, of the Foster City Municipal Code.

- **COA 10.20:** Prior to occupancy, in all commercial properties, apartment complexes or condominium complexes, the non-secure parking areas shall be equipped with a video surveillance system.

- **COA 10.21:** Prior to occupancy, residential and commercial property owners shall register their alarm systems/video surveillance systems with the Police Department.

- **COA 10.25:** Prior to building occupancy, all loading zones, fire lanes and restricted parking zones shall be marked in accordance with the California Vehicle Code and the Foster City Municipal Code, except that all ADA accessible parking spaces shall be marked with all three of three required methods (vertical sign, blue striping/wheel stop and pavement emblem marking). All areas not designated as parking stalls shall be marked as a "FIRE LANE" per Section 22500.1 CVC.

4.8.2 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to fire and police service that could result from implementation of the proposed project. The section begins with the significance criteria, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures or COAs, if required.

4.8.2.1 Significance Criteria

Development of the proposed project would result in a significant impact related to fire and police services if it would:

1) Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection.

2) Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.

4.8.2.2 Project Impacts

The following describes the potential impacts related to fire and police services that could result from implementation of the proposed project.

1) Require new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts

As noted by the SMCFD, the average response time to the area of the project site is approximately 4 minutes. The existing building on the project site is currently vacant; therefore, development of the proposed project, which would introduce a new primarily daytime population to the site consisting of approximately 213 new employees, could result in an incremental increase in demand for fire protection and associated emergency services. Based on the SMFCD's 2020 calls for service of 12,886 and the total service area population of approximately 261,510, which consists of both residents (approximately 166,000[10]) and employees (approximately 95,510[11]) working within the service area, this could result in approximate increase of 11 new annual calls to the site (a 0.08 percent increase compared to existing call volume).[12] This represents a minor increase in the overall calls for service expected for the project area with implementation of the proposed project. In addition, the project site is in a highly developed urban area 0.8 miles from Fire Station 28 and 1.5 miles from Fire Station 26. Both of these engine companies currently serve the project area and have sufficient staffing and capacity to continue serving the site without reducing average response times to the site or vicinity. Therefore, the proposed project would not require the provision of, or the need for, new or physically altered facilities to continue to serve the project site at the current level, nor would the proposed project impact the SMCFD's current response times. The SMCFD has indicated that development of the proposed project would not require additional staffing to maintain service levels at the project site or throughout the city, and that the proposed project would not present any unique challenges that would require new facilities or personnel.[13] Therefore, the SMCFD currently has sufficient numbers and types of engines, equipment, and non-personnel resources to adequately serve the proposed project.

The proposed project would also be required to meet all applicable fire code regulations as set forth in Chapter 15.24 of the municipal code and comply with all applicable COAs related to fire services

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10 San Mateo Consolidated Fire Department. *Adopted 2020–22 Business Plan*. Website: https://www.smcfire.org/administration (accessed August 2021).

11 Association of Bay Area Governments and Metropolitan Transportation Commission. 2017. Plan Bay Area 2040. Projections 2040. Website: http://projections.planbayarea.org/ (accessed August 2021).

12 12,886 calls / 261,510 service population = 0.05 calls per resident/employee. 213 employees * 0.05 calls per resident/employee = 10.65 new calls.

13 San Mateo Consolidated Fire Department. Orque, Michele, Fire Inspector. September 13, 2021. Personal communication with Sofia Mangalam, Planning Manager, City of Foster City.

and emergency access, as identified in Section 4.8.1.3. The City has adopted, with some modifications by City Ordinance, the California Fire Code (CFC). SMFCD staff would review the proposed project for compliance with applicable fire and building codes, including emergency access regulations. Therefore, with compliance with the CFC, as amended, the proposed project would result in a less than significant impact related to fire protection.

2) Require new or physically altered police protection facilities, the construction of which could cause significant environmental impacts

As previously discussed, in 2020, the FCPD responded to 17,451 calls for service,[14] and served a resident/employee population of 57,601 during that same year (or approximately 0.3 calls per resident/employee, on average). The proposed project would create 213 new full-time jobs within the city, as described in Section 3, Project Description. Therefore, the proposed project would result in an incremental (0.4 percent) increase in demand for police services at the project site and the surrounding area, which would represent a minor increase in existing calls for service.[15] Although implementation of the proposed project may result in an incremental increase in demand for police services, the FCPD has indicated that this increase would not result in the need for new police facilities or staffing.[16]As noted previously, there is no industry-wide standard to determine the ratio of police officers needed to serve a non-resident, primarily daytime population. As indicated above, the current ratio of sworn officers to Foster City residents is 0.6 officers per 1,000 residents, below the City's goal of 1 to 1.5 officers per 1,000 residents. Based on an estimated population of 33,901 in 2019 and an existing staff of 39 sworn personnel, approximately 11 new sworn officers (50 sworn personnel total) are needed to bring staffing levels to a ratio of 1.5 officers per 1,000 residents. As described in the Initial Study prepared for the proposed project (included in Appendix B), approximately 17 new Foster City residents would be generated as a result of the project.[17] This addition of new residents from the project would require less than 1 additional sworn officer to serve the new development within FCPD's desired staffing ratio.

Police services and staffing ratios are reviewed through an annual budgeting process during which citywide priorities are established and service levels monitored, allowing adjustments where needed. Any added personnel would be funded through the City's General Fund. Revenue and taxes generated by the project would contribute to the City's General Fund for such purposes as funding added personnel. Additional officers needed to meet FCPD's desired staffing level would be accommodated by existing facilities.[18] However, staffing levels do not relate to physical impacts and thus are not considered an impact under CEQA. This analysis is therefore provided for informational

[14] EMID. 2021. Final Budget, Fiscal Year 2021–2022. Website: www.fostercity.org/finance/page/annual-budget (accessed August 2021).

[15] 213 employees * 0.3 calls per resident/employee = 64 new calls.

[16] Foster City Police Department. Terry, Marcus, Crime Prevention and Community Outreach Corporal. November 9, 2021. Personal communication with Sofia Mangalam, Planning Manager, City of Foster City.

[17] In 2018, the year for which the most recent data are available, an estimated 7.9 percent of the people employed in Foster City also lived within the city, whereas the other 92.1 percent lived elsewhere in the Bay Area. Consistent with this ratio, the proposed project would result in approximately 17 employees who could live in Foster City.

[18] Terry, Marcus. op. cit.

purposes only. Development of the project would not affect the FCPD's ability to meet this response time goal, nor would it require the provision of or need for new or physically altered facilities to continue to serve the project site. In addition, the proposed project would be required to comply with all applicable COAs related to police protection services, as identified in Section 4.8.1.3. The project would therefore have a less-than-significant impact on police protection services.

4.8.2.3 Cumulative Impacts

The proposed project and cumulative projects would incrementally increase the demand for fire and police services. These services are subject to an annual budgeting process during which service priorities are established and service levels are monitored, allowing for adjustments where needed. Changes in demand for these services are expected to be incremental, allowing for carefully planned expansions of existing facilities. Any expansions would be likely to take place on sites already occupied by existing service providers. Additionally, for any expansions of new facilities, or development projects that require the expansion of existing or new facilities, project-specific CEQA review would be required, which would ensure that any potential impacts related to the expansion or construction of facilities would be less than significant. Therefore, no cumulative impacts to these services are anticipated that would result in adverse physical impacts associated with the maintenance of service standards.

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4.9 UTILITIES AND SERVICE SYSTEMS

This section describes the utility systems (water, wastewater, solid waste, energy, and telecommunications) serving the project site and identifies the potential impacts to utility services and infrastructure that could result from implementation of the proposed project. Standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant air quality impacts are identified, where appropriate. Impacts to the stormwater system are also more fully discussed in Section 3.9, Hydrology and Water Quality, of the Initial Study prepared for the proposed project (included as Appendix B). These impacts were determined to be less than significant.

4.9.1 Setting

This section addresses the following utilities: water supply, treatment, and distribution; wastewater collection, treatment, and disposal; solid waste; energy; and telecommunications.

4.9.1.1 Water Service

The Estero Municipal Improvement District (EMID) manages the distribution, operation, and maintenance of the City's water supply system. Unless otherwise noted, the information presented below is based on the Water Supply Assessment (WSA) prepared for the proposed project, which is included as Appendix F.[1] The WSA relies, in part, on the 2020 Urban Water Management Plan (UWMP) the City of Foster City (City) prepared and adopted in July 2021.[2]

Water Sources. The EMID, which also serves San Mateo's Mariners Island area, is governed by the City and managed and operated by the City's Public Works Department. The EMID serves a population of 36,516, which is largely made up of residential uses, but also contains commercial uses and a small number of industrial businesses. EMID purchases all of its potable water from the San Francisco Public Utilities Commission's (SFPUC) Regional Water System (RWS) and is a member of the Bay Area Water Supply and Conservation Agency (BAWSCA). Water distribution and conservation and water quality maintenance are EMID main water resources functions, as treated water purchased from the SFPUC RWS does not require further water treatment.

The city is almost built out, with several development projects in various stages of planning and construction. Table 4.9.A, below, shows the projected service area population and employment growth in 5-year increments until 2045.

Approximately 85 percent of the water supply to the SFPUC RWS originates in the Hetch Hetchy watershed, located in Yosemite National Park, and flows down the Tuolumne River into the Hetch Hetchy Reservoir. Water from the Hetch Hetchy watershed is managed through the Hetch Hetchy Water and Power Project. The remaining 15 percent of water supply to the SFPUC RWS originates locally in the Alameda and Peninsula watersheds and is stored in six different reservoirs in Alameda and San Mateo Counties. The EMID does not have any groundwater or recycled water sources to supplement its supply.

1 HydroScience. 2021a. *388 Vintage Park Drive, Foster City – Water Supply Assessment.* August 4.
2 Foster City, City of. 2021c. 2020 Urban Water Management Plan. June.

Table 4.9.A: EMID Projected Population and Employment

	2020	2025	2030	2035	2040	2045
Service Area Population	36,516	36,932	37,602	38,848	40,107	41,366
Percent Population Increase	--	1.14	1.81	3.31	3.24	3.14
Service Area Employment	30,122	33,938	38,855	41,137	43,434	45,731
Percent Employment Increase	--	12.66	14.49	5.87	5.58	5.29

Source: HydroScience (2021a).
EMID = Estero Municipal Improvement District

The EMID does not hold any existing water rights; rather its water supply assurances are the result of its contract with the SFPUC. In August 2009, the BAWSCA and its member agencies signed a new Water Supply Agreement and Individual Water Sales Contract with SFPUC. The contract runs through June 30, 2034 and guarantees a supply assurance of 184 million gallons per day (mgd) to BAWSCA member agencies. The supply assurance to the EMID is 5.9 mgd or 2,154 million gallons per year (mgy). The portion of that supply assurance to EMID and the projected water demand through 2045 is shown in Table 4.9.B. Although the Master Agreement and accompanying Water Supply Contract expire in 2034, the Supply Assurance (which quantifies San Francisco's obligation to supply water to its individual wholesale customers) survives their expiration and continues indefinitely.

Table 4.9.B: EMID Water Demand and Supplies

Description	2025	2030	2035	2040	2045
Total Water Supply (mgy)	2,154	2,154	2,154	2,154	2,154
Total Water Demand (mgy)	1,615	1,646	1,681	1,723	1,805
Surplus (Shortfall)	539	508	473	431	349

Source: HydroScience (2021).
EMID = Estero Municipal Improvement District

As shown in Table 4.9.B, EMID water demand is, and will remain, significantly lower than its SFPUC assured supply. The Supply Assurance is subject to reductions in the event of drought, water shortage, earthquake, or rehabilitation/maintenance of the system. Table 4.9.C shows SFPUC's projected deliveries to EMID for a single dry year and for an additional four consecutive dry years, based on the allocation of 2,154 mgy.

4.9.1.2 Water Treatment, Distribution, and Storage Facilities

As discussed above, the majority of the SFPUC's water supply originates in the upper elevations of the Sierra Nevada, in the Tuolumne watershed. The SFPUC treats its water to meet all drinking water standards, and the EMID receives the already treated water from the SFPUC and distributes it to its customers. As a retailer, the EMID has no direct control over its water supply and treatment. The EMID has only one main source of water supply, a 24-inch transmission main that connects to the SFPUC's 54-inch Crystal Springs No. 2 line. The connection point is in San Mateo, on Crystal Springs Road.

Table 4.9.C: EMID Water Demand and Supplies in Single and Consecutive Dry Years

Description	Normal Year	Single Year/ Year 1	Year 2	Year 3	Year 5	Year 5
Total Water Supply (mgy)	2,154	1,635	1,646	873	873	873
Total Water Demand (mgy)	Varies	1,595	1,600	1,607	1,614	1,615
Surplus (Shortfall)	Varies	40	46	(734)	(741)	(742)

Source: HydroScience (2021).
EMID = Estero Municipal Improvement District

In addition to the 24-inch transmission main, the EMID has two separate 12-inch emergency supply connections with the California Water Service Company (which serves the city of San Mateo) and with the Mid-Peninsula Water Agency (formerly called Belmont County Water District, which serves the cities of Belmont, San Carlos, and part of Redwood City). The EMID has agreements with both agencies that allow the EMID to use these connections during emergency situations. Both the California Water Service Company and the Mid-Peninsula Water Agency are members of the BAWSCA.

The EMID has four at-grade water storage tanks with a total capacity of 20 million gallons for emergencies and peak and fire flow demand. Booster pumps are necessary to pump water from the storage tanks into the distribution system. The booster pump station has two electrical pumps and four engine-driven pumps. The engine-driven pumps are powered by natural gas with propane backup.

EMID's wholesaler, SFPUC, has been implementing its Water System Improvement Plan (WSIP) since it was adopted in 2008. The WSIP includes several water supply projects to address the Level of Service Goals and Objective established in the WSIP and updated in February 2020. SFPUC has also developed an Alternative Water Supply Planning program to explore other projects that would increase overall water supply resiliency. Through this program, the SFPUC will conduct feasibility studies and develop an Alternative Water Supply Plan by July 2023 to support the continued development of water supplies to meet future needs.

4.9.1.3 Wastewater (Sanitary Sewer) System

The wastewater collection and treatment system serving the project site is owned by the EMID and operated by the Sewer Division of the Foster City Public Works Department. The existing collection system and wastewater treatment facilities serving the City and the project site are described below.

Collection System. The Wastewater Division of the City's Public Works Department operates and maintains more than 43 miles of sanitary sewer lines, more than 8.5 miles of sewer force mains, 49 pumping stations, 15 permanent standby generators, and 4 portable generators to ensure that the approximately 3 million gallons of wastewater that Foster City homes and businesses generate each day is pumped to the jointly-owned San Mateo Treatment facility in San Mateo. Wastewater is transported via a collection of mains and lift stations from the project site directly to the San Mateo

Regional Water Quality Control Plant, where it is reclaimed and then discharged into the San Francisco Bay. The system is maintained and upgraded on an as-needed basis.

Wastewater Treatment Facilities. Wastewater treatment is provided by the San Mateo Wastewater Treatment Plant (WWTP), which is jointly owned by the EMID and the City of San Mateo and serves over 130,000 people and businesses. The EMID owns approximately 25 percent of the treatment plant. The treatment plant has an average daily dry-weather flow capacity of 15.7 mgd, of which 4.3 mgd is the purchased capacity for EMID per the Joint Powers Agreement.[3] The WWTP has an actual average daily dry-weather flow of 12.3 mgd. EMID's actual average daily flow is approximately 3.1 mgd, or 1.2 mgd below capacity.[4] Based on current flow data, average daily dry-weather flows EMID produces are below the capacities anticipated in the Joint Powers Agreement.

The WWTP can treat up to 60 mgd through primary treatment (using gravity to remove solid waste) and 40 mgd through secondary treatment (using biological processes to remove dissolved waste). During heavy rains this capacity is regularly exceeded, causing sewers to overflow. In addition, the WWTP is an aging wastewater collection system, with facilities and components that are up to 75 years old. To address these issues, the City of San Mateo's Clean Water Program is upgrading and expanding the WWTP facilities in collaboration with the City of Foster City/EMID. The WWTP upgrades will accommodate heavy storm events up to 78 mgd. Construction was initiated in August 2019 with an anticipated date of completion in 2024.

4.9.1.4 Storm Drainage System

The existing stormwater from the project site either infiltrates through the surface soils within the landscaped areas of the project site, or runs off the impervious surfaces into the adjacent streets where it collects in the City's storm drainage system and discharges into the Foster City Lagoon system. Stormwater that enters Foster City Lagoon flows by gravity to, or is pumped into, San Francisco Bay.

4.9.1.5 Solid Waste

The following section describes the City's non-hazardous and hazardous waste disposal services and capacity.

Non-Hazardous Solid Waste. The City is a member agency of the South Bayside Waste Management Authority (SBWMA), also known as RethinkWaste, a joint powers authority created in 1982 to facilitate waste management programs for its member agencies. The SBWMA contracts with Recology San Mateo County, a private service, to provide recycling, compost, and garbage collection services for residents and businesses in the SBWMA service area. Non-hazardous solid waste and recyclables are taken to the Shoreway Environmental Center (Shoreway) on the border of the cities of San Carlos and Redwood City. Shoreway's facilities include a Transfer Station operated by South Bay Recycling and a Public Recycling Center.

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3 Foster City, City of. 2016a. *Foster City General Plan*. November.

4 San Mateo, City of. 2019. Clean Water Program. Website: https://cleanwaterprogramsanmateo.org/wwtp/?fbclid=IwAR20hW7e4gikVJFk3OL-qD85N0BE2DDq9Qy0bC38dPLzg8ymrLHnogef-Ow (accessed August 2021).

Since 2010, the facility has been permitted to receive 3,000 tons per day of solid waste and recyclables, with permit review required every 5 years. In addition, Shoreway is designed to receive up to 4,100 tons per day.[5] In 2020, the facility received a daily average of 538 tons of trash, 302 tons of green waste, 200 tons of recyclables, and 108 tons of bulky items, or approximately 1,148 tons of waste per day.[6,7] After undergoing processing, waste from Shoreway is delivered to the Corinda Los Trancos (Ox Mountain) Landfill in Half Moon Bay. The landfill handles construction, demolition, and mixed municipal waste. The landfill has a permitted throughput of 3,598 tons per day and an estimated "cease operation date" of January 1, 2034. As of December 31, 2015, the most recent year for which data are available, the estimated remaining capacity was 22.18 million cubic yards, or 36 percent of the original total.[8]

Hazardous Solid Waste. Foster City's hazardous wastes are disposed of at the Kettleman Hills Facility, Landfill B-18, which is operated by Chemical Waste Management, Inc. The Kettleman Hills Facility is in the San Joaquin Valley, about 2.5 miles west of Interstate 5, approximately midway between San Francisco and Los Angeles. The facility is approved under the Comprehensive Environmental Response, Compensation, and Liability Act and permitted under the Toxic Substances Control Act and the Resource Conservation and Recovery Act to manage hazardous waste materials. The Kettleman Hills Landfill B-18 encompasses 695 acres and has a total capacity of 15.7 million cubic yards. The California Department of Toxic Substances Control has not identified a closure date, however, Chemical Waste Management Inc. is currently pursuing a permit renewal.[9] According to the California Department of Resources Recycling and Recovery (CalRecycle), no closure date has been identified for the landfill.

4.9.1.6 Electricity and Gas

The Pacific Gas & Electric Company (PG&E) provides electrical and natural gas service to customers in Foster City. PG&E charges connection and user fees for all new development in addition to sliding rates for electrical and natural gas service based on use. Electrical services are currently available at the project site. Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, details requirements to achieve minimum energy efficiency standards of the State of California. The standards regulate energy consumed by new residential and non-residential building construction for heating, cooling, ventilation, water heating, and lighting. The local building permit process verifies and enforces compliance with these standards.

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5 South Bay Recycling and South Bayside Waste Management Authority. 2020. Application for Solid Waste Facility Permit and Waste Discharge Requirements. SWIS Number 41-AA-0016. May 15.

6 South Bayside Waste Management Authority. *Rethink Waste 2020 Annual Report*. Website: https://rethinkwaste.org/about/rethinkwaste/annual-reports-budgets/ (accessed August 2021).

7 Due to the ongoing COVID-19 pandemic, the Shoreway Environmental Center handled approximately 12 percent less waste in total compared to 2019.

8 California Department of Resources Recycling and Recovery. 2019. SWIS Facility/Site Activity Details. Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002). Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223 (accessed August 2021).

9 California Department of Toxic Substances Control. 2021. Chemical Waste Management Inc. Kettleman (CAT000646117). Website: https://www.envirostor.dtsc.ca.gov/public/hwmp_profile_report.asp?global_id=CAT000646117 (accessed August 2021).

4.9.1.7 Telecommunications

Multiple telecommunications providers serve Foster City. AT&T is the City's primary telephone provider (or Incumbent Local Exchange Carrier – ILEC). Other carriers such as Qwest, Williams Communications, MCI/Worldcom, and Sprint have started providing services to commercial accounts in Foster City. Other providers offer DSL-type services to the residential market, but most are reliant upon AT&T's infrastructure. The City has a non-exclusive Franchise Agreement with the Comcast Corporation, which is currently the sole cable television and broadband internet provider. The City regulates Comcast services as provided under federal law. These service providers are privately owned and operated, and recover the costs of operation, maintenance, and capital improvement through connection and user fees collected from all customers. These services are currently available at the project site.

The California Public Utilities Commission (CPUC) regulates California's telecommunications industry and requires that local phone service providers anticipate and serve new growth. To meet this requirement, local providers continually upgrade their facilities, technology, and infrastructure to remain in conformance with California Public Utilities Commission tariffs and regulations and to serve customer demand in the City.

4.9.1.8 Regulatory Framework

The following section describes the regulatory context for utilities and service systems in Foster City, including statewide mandates and local General Plan policies and applicable standard Conditions of Approval (COA).

California Integrated Waste Management Act (Assembly Bill 939). In 1989, the California Legislature enacted the California Integrated Waste Management Act (Assembly Bill [AB] 939), which requires the diversion of waste materials from landfills to preserve landfill capacity and natural resources. Cities and counties in California were required to divert 25 percent of solid waste by 1995, and 50 percent of solid waste by 2000. AB 939 further requires every city and county to prepare two documents demonstrating how the mandated rates of diversion will be achieved. The Source Reduction and Recycling Element must describe the chief source of the jurisdiction's waste, the existing diversion programs, and current rates of waste diversion and new or expanded diversion programs. The Household Hazardous Waste Element must describe each jurisdiction's responsibility in ensuring that household hazardous wastes are not mixed with non-hazardous solid wastes and subsequently deposited at a landfill.

California Code of Regulations. Title 24: California Building Standards Code. Title 24, California's Energy Efficiency Standards for Residential and Non-Residential Buildings, requires construction of new buildings and additions to adhere to energy-efficiency standards. These standards include targets for energy efficiency, water consumption, dual-plumbing systems for potable and recyclable water, diversion of construction waste from landfills, and the use of environmentally-sensitive materials in construction and design. The City follows the most current State business codes. The City's General Plan Conservation Element, Program C-0, requires new construction to be built according to Title 24.

Urban Water Management Planning Act. In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act requires that every

urban water supplier that provides water to 3,000 or more customers or that provides more than 3,000 acre-feet per year (AFY) prepare and adopt a UWMP. Water suppliers are to prepare a UWMP within 1 year of becoming an urban water supplier and update the plan at least once every 5 years. The act also specifies the content that is to be included in an UWMP. It is the intention of the legislature to permit levels of water management planning commensurate with the number of customers served and the volume of water supplied. The act states that urban water suppliers should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act also states that the management of urban water demands and the efficient use of water shall be actively pursued to protect both the people of the state and their water resources. The City recently adopted the 2020 Urban Water Management Plan, which is further discussed below.[10] The 2020 UWMP is a projection of demands and supplies for 25 years through 2045.

Senate Bills 610 and 221. In 2003, Senate Bill (SB) 610 and SB 221 were signed into law by Governor Gray Davis. SB 610 requires public water systems that supply water to proposed projects to determine whether the projected water demand (associated with the proposed project) could be met when existing and planned future uses are considered. For the purposes of SB 610, Water Code Section 10912 (a)(2) requires all projects with a water demand equivalent to 500 or more dwelling units, or which include over 250,000 square feet of commercial office building, to obtain a WSA. In addition, SB 610 requires a quantification of water received by the water provider in prior years from water rights, water supply entitlements, and water service contracts. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply.

The Water Conservation Act of 2009 (Senate Bill x7-7). Senate Bill x7-7 (SBx7-7) requires all water suppliers to increase water use efficiency. SBx7-7 mandates the reduction of per capita water use and agricultural water use throughout the State by 20 percent by 2020.

California Public Utilities Commission. The CPUC regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. General Order 121-d gives the CPUC permitting authority over construction of new and expanded power plants, electric transmission lines, and substations. Pursuant to CEQA, an environmental analysis must be conducted before issuance of construction permits by CPUC. CPUC Decision 95-08-038 contains the rules for the planning and construction of new transmission facilities, distribution facilities, and substations. The CPUC also regulates local natural gas distribution facilities and services, as well as interstate pipelines.

California Energy Commission. The California Energy Commission (CEC) is the State's primary energy policy and planning agency. The CEC was created by the Legislature in 1974 and is responsible for forecasting future energy needs and keeping historical energy data; licensing thermal power plants 50 megawatts or larger; promoting energy efficiency by setting the State's appliance and building efficiency standards; supporting public interest energy research that advances energy science and technology; supporting renewable energy by providing market support to existing, new, and

[10] City of Foster City. 2021. Public Review Draft 2020 Urban Water Management Plan. June.

emerging renewable technologies; developing and implementing the State Alternative and Renewable Fuel and Vehicle Technology Program to reduce the State's petroleum dependency and help attain the State climate change policies; administering more than $300 million in American Reinvestment and Recovery Act funding through State programs; and planning for and directing the State response to energy emergencies.

Foster City General Plan. The Foster City General Plan includes the following goals, policies, and programs that are related to utilities and service systems.

- **Goal LUC-F: Provide Adequate Services and Facilities.** Ensure that new and existing developments can be adequately served by municipal services and facilities.

- **Policy LUC-L-10: Adequacy of Public Infrastructure and Services.** New projects which require construction or expansion of public improvements shall pay their pro rata fair share of the costs necessary to improve or expand infrastructure necessary to serve them, including streets and street improvements, parks, water storage tanks, sewer and water service, and other public services. The City has established several assessment districts to pay for needed municipal improvements. Facilities benefiting a specific development must be provided by the developer of that project.

- **Policy C-1: Water Resources.** Conserve water resources in existing and new development.

- **Policy C-5: Solid Waste.** Reduce the generation of solid waste through recycling and other methods.

- **Program C-a: Water Saving Landscaping and Irrigation.** Promote the use of low-water-use landscaping and irrigation devices in parks, and during review of new projects and modifications to existing developments.

- **Program C-b: Property Owner Water Saving Techniques.** Encourage all property owners to implement the following conservation techniques: utilize drought tolerant plant materials, limit turf areas to 25 percent of landscaping, limit hours of the day for watering, retrofit with water-conserving fixtures, retrofit existing bathrooms and install new bathrooms with ultra-low-flow toilets and water conserving shower heads.

- **Program C-o: Title 24.** Construct new buildings and additions to energy efficiency standards according to Title 24 of the California State Model Code.

- **Program C-p: Solar Heating and Cooling.** Encourage installation of solar panels for heating and cooling with solar energy.

- **Program C-t: Source Reduction and Recycling Element.** Implement the Source Reduction and Recycling Element in accordance with State regulations.

- **Policy S-A-3: Water Supply.** The City will provide an adequate supply of water for daily use and emergency situations.

- **Program S-A-3-a: Water Supply and Delivery.** The City will maintain a water supply and delivery system that can meet potential fire-fighting demands through annual exercising of fire hydrants and periodic review of storage needs.

Foster City Standard Conditions of Approval. The City has adopted standard COAs for large new and redevelopment projects. The following COAs related to utilities and service systems would apply to the proposed project.

- **COA 2.4:** Prior to issuance of a building permit, the Construction Best Management Practices (BMPs) from the San Mateo Countywide Stormwater Pollution Prevention Program shall be included as notes on the building permit drawings.

- **COA 2.9:** The construction contractor shall designate a "noise disturbance coordinator" who shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaints (e.g., beginning work too early, bad muffler) and institute reasonable measures warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site. The construction contractor shall protect all downstream sanitary sewer lines from construction debris while performing sanitary sewer construction. Means to prevent construction debris must be used and shall be inspected by the construction inspector.

- **COA 5.8.1:** The applicant shall have a registered civil engineer prepare a sewer flow projection study and a hydraulic capacity study, to be submitted to the Engineering Division for review. The study shall meet the approval of the Engineering Division and should:

    - Verify that the existing sewer system is properly sized to meet the projected increase in wastewater generation on the project site.

    - Study the on and off-site sewer system (including lift stations) which services the project (both upstream and downstream).

    - Show the new connecting points to the existing sewers and model the estimated flows and peaking factors, as they relate to the changes in land use for the proposed project.

    No on-site or downstream overloading of existing sewer system will be permitted. Any necessary improvements identified by the study shall be constructed by the developer/applicant at applicant's sole cost.

- **COA 5.9.1:** Prior to issuance of a building permit, the improvement plans shall include the design of stormwater improvements in accordance with the City's Standard Details/Specifications and to the satisfaction of the Engineering Division. Stormwater improvements items of construction should include at least the following:

    - Surface and subsurface storm drain facilities;
    - Manholes with manhole frames and covers;
    - Catch basins and laterals;

- Construct all catch basins as silt detention basins; and
- Together with appurtenances, to any or all of the above.

- **COA 5.9.2:** Prior to issuance of a building permit, a complete storm drainage study of the proposed development shall be prepared by a registered civil engineer and submitted as part of the improvement plans package. Drainage facilities shall be designed in accordance with accepted engineering principles and be approved by the Engineering Division. The hydrology/hydraulic analysis shall include the following:

  - The amount of runoff, and existing and proposed drainage structure capacities.
  - Verification that the existing storm drain system is adequately sized to handle the run-off from the project.
  - Conformance with the City's Drainage Design Criteria/Standards available on the City's website: https://www.fostercity.org/publicworks/page/city-standard-design-criteria
  - Calculations and plans showing hydraulic gradelines.
  - Evidence that the system is capable of handling a 25-year storm with the hydraulic grade line at least one foot below every grate.

  No overloading of the existing system will be permitted. All needed improvements shall be installed by the applicants at applicants' sole cost.

- **COA 5.9.3:** The applicant shall fully comply with the C.3 provisions of the Municipal Regional Stormwater NPDES Permit (MRP). Responsibilities include, but are not limited to, designing Best Management Practices (BMPs) into the project features and operation to reduce potential impacts to surface water quality associated with operation of the project. These features shall be included in the design-level drainage plan and final development drawings. Specifically, the final design shall include measures designed to mitigate potential water quality degradation of runoff from all portions of the completed development.

  All Stormwater control measures outlined in the current San Mateo Countywide Water Pollution Prevention Program's C.3 Stormwater Technical Guidance manual shall be incorporated into the project design. Low Impact Development features, including rainwater harvesting and reuse, and passive, low-maintenance BMPs (e.g., grassy swales, porous pavements) are required under the MRP. Higher-maintenance BMP's may only be used if the development of at-grade treatment systems is not possible, or would not adequately treat runoff. Funding for long-term maintenance for all BMPs must be specified (as the City will not assume maintenance responsibilities for these features).The applicant shall establish a self-perpetuating drainage system maintenance program for the life of the project that includes annual inspections of any stormwater detention devices and drainage inlets. Any accumulation of sediment or other debris would need to be promptly removed. In addition, an annual report documenting the inspection and any remedial action conducted shall be submitted to the Public Works Development for review and approval.

The drainage plan shall be prepared to the satisfaction of the Engineering Division.

- **COA 5.9.4:** Prior to issuance of a building permit, should the City determine that the City's storm drain system or storm drain pumping capacity requires expansion or modification as a result of the applicants' development, the applicants shall pay for all necessary improvement costs. The timing and amount of payment shall be as determined by the City.

- **COA 5.10.1:** To properly evaluate necessary improvements, a complete water system capacity study of the on-and-off site water system which services the proposed project shall be prepared by a registered civil engineer approved by the City/District Engineer, and retained by the project developer prior to approval of a building permit. The study shall include: a map showing the project location, utility drawings for the project area (pdf and CAD files), a project description (type of development, number of units, land use, acreage, etc.), and a system demand analysis (including average daily demand, maximum daily demand, peak hour demand, and fire flow requirements) specific to the proposed development. The study shall include a detailed water pipe hydraulic flow analysis to determine whether the existing water distribution system is properly sized to meet the projected new water demands on the project site. All needed construction improvements to upsize the existing water distribution system to meet the demands of the new project shall be constructed to meet California Fire Code and Foster City Fire Department requirements, by the applicant at the applicant's sole cost.

- **COA 5.10.3:** Water lines shall be designed for fire flows to meet California Fire Code and Fire Department requirements.

- **COA 8.1:** Submit documentation and plans showing compliance with Chapter 8.8 of the EMID Code, including, but not limited to submittal of the Outdoor Water Use Efficiency Checklist.

- **COA 9.15:** All excess fill shall be disposed of in accordance with City requirements.

- **COA 10.1:** Prior to occupancy the applicant shall arrange a joint field meeting with representatives of the Water Department to perform a visual survey of the condition of the existing water distribution system (including testing of valves and appurtenances) in the vicinity of the project site. The applicant shall prepare a post-construction survey report to be submitted to the Foster City Public Works Department for review. Report shall document any necessary repairs required to the existing water supply infrastructure. The applicant shall be responsible for constructing and financing any such repairs.

- **COA 10.7:** Prior to occupancy the existing storm drain pipe lines on the project site and downstream to the nearest lagoon inlet shall be cleaned and sediment removed at the completion of the project. Applicant shall submit a map illustrating the route to be televised for approval of the City/District Engineer prior to sediment removal. The storm drain pipe lines shall be televised after cleaning to verify that the sediment has been removed and to identify any damages to the storm drain pipe lines during construction. A post construction survey report shall be prepared identifying facilities to be repaired and confirming removal of sediment from storm lines. Sediment left in mains shall be subject to re-cleaning at the applicant's sole cost.

4.9.2 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to utilities and infrastructure that could result from implementation of the proposed project. The section begins with the significance criteria, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and identifies applicable COAs and recommends mitigation measures, if required.

4.9.2.1 Significance Criteria

The proposed project would have a significant impact on the environment related to utilities and service systems if it would:

1) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

2) Require new or expanded entitlements from the water service provider in order to provide sufficient water supplies;

3) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments; or

4) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals or be inconsistent with federal, State, or local statutes or regulations related to solid waste.

4.9.2.2 Project Impacts

The following discussion describes the potential impacts related to utilities and service systems that could result from implementation of the proposed project.

1) Require or result in the relocation or construction of new or expanded utilities and service facilities

Water and Wastewater. Water service on the project site is provided by a water main within Vintage Park Drive that includes a tie-in for an existing fire hydrant along the sidewalk. The proposed project would include new 8-inch water mains on the project site that would connect to this existing fire hydrant for both domestic water and fire water service. Additionally, 12-inch water main is within a public utility easement (PUE) on the western boundary of the project site, where it terminates near the center of the site. The proposed project would include connections to this additional water main for fire service. As described above, COA 5.10.1 requires the preparation of a water system capacity study to ensure the surrounding water infrastructure is appropriately sized. COA 5.10.1 requires the project applicant to construct all necessary improvements to the water distribution system. Therefore, compliance with COA 5.10.1 would ensure this impact would be less than significant.

Wastewater service to the project site is provided by sanitary sewer lines that run through Vintage Park Drive, Chess Drive, and the PUE along the western boundary. The proposed project would extend the existing sanitary sewer line within the PUE to run the length of the project site, and would include two connections from the proposed building and one from the trash enclosure in the northwest corner of the site. One of the connections from the proposed building would include an oil and sand separator to receive water runoff from the ground level parking garage.

As noted above, COA 5.8.1 requires the preparation of a sewer capacity study to confirm that existing infrastructure can accommodate projected wastewater flows. The Sewer Capacity Study (included as Appendix G) prepared for the proposed project indicates that the average wastewater discharge from the project site is expected to drop from 5 gallons per minute—the estimated wastewater generation of the previous restaurant use—to 3.5 gallons per minute with implementation of the proposed project.[11] Therefore, implementation of the proposed project would not require the construction of new wastewater infrastructure, and this impact would be less than significant.

Stormwater. As described in Section 3.10, Hydrology and Water Quality, of the Initial Study (included in Appendix B), the proposed project would replace more than 10,000 square feet of existing impervious area and therefore would be required to comply with Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) MRP. Provision C.3 requires regulated projects to implement Low Impact Development (LID) source control, site design, and stormwater treatment. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and flow-through planter/tree boxes. The proposed project would involve a bioretention area at the northeastern corner of the project site and flow-through planters on the east side and south side of the proposed building.

Stormwater infrastructure in the vicinity of the project site includes storm drains within Vintage Park Drive and Chess Drive. Implementation of COA 5.9.1 requires the stormwater system to be capable of handling a 25-year storm and the drainage facilities to be designed in accordance with accepted engineering principles and conform to the Foster City Drainage Design Criteria. Implementation of COA 5.9.2 requires that a complete storm drainage study be approved by the City's Engineering Division, which ensures no overloading of the existing system. This COA also requires a hydrology/hydraulic analysis to be completed to verify the existing off-site storm drainage system is adequately sized to handle the runoff from the project. Implementation of COA 5.9.4 requires the sponsor to pay for all necessary improvement costs if the City determines that the City's storm drain system or storm drain pumping capacity requires expansion or modification as a result of the sponsor's proposed development.

[11] HydroScience Engineers. 2021b. 388 Vintage Park Development, Sewer Capacity Study. October 22.

Compliance with the City's COAs would ensure that the potential impacts related to on-site and off-site flooding and exceeding the local stormwater system drainage capacity as a result of changes in drainage patterns would be less than significant.

Electricity, Gas, and Telecommunications. Development of the proposed project would take place in a location that currently has electricity, gas, telephone, cable, and internet services, and these services would continue to be provided to the project site to serve the proposed development. As such, the proposed project would have a less than significant impact on electricity, gas, telecommunications, cable, and internet services.

2) Require new or expanded entitlements from the water service provider

The proposed project would result in the demolition of the existing building on the site and construction of 120,164 gross square feet of floor area as described in Section 3, Project Description. Although the proposed project does not meet the definition of a "project" as defined by SB 610 and SB 221, a WSA was prepared given EMID's reliance on the SFPUC as its sole wholesale supplier, and SFPUC's anticipation of substantial rationing of EMID's water supply during dry years. The WSA is included in Appendix F. The Foster City City Council approved and adopted the 2020 UWMP in July 2021. The 2020 UMWP included and addressed the proposed project.

The proposed project would result in 1.8 mgy, or 5.7 AFY, of additional water demand per year. It should be noted that if the historical use of the project site were taken into account, the proposed project would result in a net decrease of approximately 2.1 mgy compared to the previous restaurant use. However, to be conservative, the WSA does not apply the deduction for historic water use, and therefore an increase of 1.8 mgy is used. As shown previously in Table 4.9.B, the EMID would have a surplus in normal years of at least 349 mgy through 2045. As described previously, this water supply is assured through 2034, with provisions for extension to 2044. Therefore, as shown in Table 4.9.D, the EMID would have enough water supply to meet demand during normal years with implementation of the proposed project.

Table 4.9.D: EMID Water Supply and Demand Projections Plus Projects (MG)

	2025	2030	2035	2040	2045
Normal SFPUC Water Supply Assurance	2,154	2,154	2,154	2,154	2,154
Demand Projection for EMID with Passive and Active Conservation[1]	1,615	1,646	1,681	1,723	1,805
Estimated Remaining SFPUC Supply	539	508	473	431	349
Estimated Remaining Supply Reliability	25%	23%	22%	20%	16%

Source: 2020 Urban Water Management Plan (Foster City, City of 2021).

[1] This includes the proposed project and all known pending development projects in the EMID service area that could result in increased water demand.

EMID = Estero Municipal Improvement District
SFPUC = San Francisco Public Utilities Commission
MG = millions of gallons

As shown in Table 4.9.C, 5 consecutive dry years could result in a water shortage of up to 46 percent. In the event of prolonged drought conditions, EMID would implement the Water Shortage Contingency Plan (WSCP),[12] which includes six levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage and identifies a suite of demand reduction measures for the EMID to implement at each level. Therefore, because implementation of the WSCP could reduce demand by more than 46 percent (the total shortage in the fifth consecutive dry year) water demand associated with the proposed project and all foreseeable development could be accommodated during multiple dry years through implementation of the mandatory demand reductions outlined in the WSCP. Additionally, compliance with Estero Municipal Improvement District Code Section 8.70 and the California Green Building Code would ensure that all indoor water use would be water-efficient to minimize water consumption.

The proposed project would represent an increase in water demand within the anticipated supply range for the City. However, this increase would be incremental and would not lead to insufficient water supplies in existing entitlements and resources or require new or expanded entitlements. No new water entitlements would be required to serve the proposed project. Therefore, the project would result in a less than significant impact on potable water supply.

3) Result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project's projected demand

As previously described, the WWTP's average daily dry weather capacity is 15.7 mgd, of which 4.3 mgd is the purchased capacity for the EMID. In 2013, the WWTP had an average daily dry-weather flow of 12.3 mgd, and the EMID's average daily flow was 3.1 mgd. The average daily flow for both the WWTP and the EMID's portion is within the average daily flow design capacity. According to the WSA prepared for the proposed project (included as Appendix F), the proposed project would result in approximately 5.7 AFY, or approximately 1.8 mgy, of additional water demand per year. Assuming the total amount of water demand generated by the project is equal to the total amount of wastewater generated, the proposed project would generate approximately 1.3 mgy of wastewater (0.004 mgd). This method of estimating the project's wastewater flows assumes that all water used by the project would enter the City's sewer system. This assumption overestimates the amount of wastewater created, as a portion of the water demanded by the project would be used for purposes of landscaping and other uses that would not enter the City's sewer system. The net increase of 0.004 mgd would increase the WWTP and the EMID's portion of the average daily flow. However, this increase would be incremental in both cases.

Therefore, because the proposed project would allow EMID to remain well below its allocated daily flow capacity at the WWTP, it would result in a less-than-significant impact on wastewater treatment and disposal, as no new wastewater facilities would be required to serve the project.

[12] Estero Municipal Improvement District. 2021. *2020 Urban Water Management Plan*. July. Note: The Water Shortage Contingency Plan is included in the Urban Water Management Plan.

4) Generate solid waste in excess of established standards or landfill capacity or otherwise impair or be inconsistent with solid waste reduction goals or applicable regulations

The project would be served by landfills with the capacity to handle solid waste generated by the operational phases of the proposed project. As required by AB 939, the California Integrated Waste Management Act, a minimum of 50 percent of the City's waste must be recycled. Per the City's construction and demolition ordinance, the construction contractor would be required to recycle a minimum of half of all demolition and construction debris to meet City requirements. Chapter 15.44 (Ordinance 593) of the Foster City Municipal Code requires construction contractors to take their construction and demolition debris to a facility that processes construction and demolition materials for recycling. Most of these facilities yield recycling rates in excess of 80 percent. The typical remaining refuse sent to the landfill is 10 to 15 percent of the debris. This would not substantially decrease the available capacity at the Ox Mountain Sanitary Landfill.

In 2006, CalRecycle provided an estimate that a commercial development generates 10.53 pounds of solid waste per employee on a daily basis.[13] The proposed project would result in the addition of 213 employees, and therefore would generate 2,243 pounds of waste per day. This represents 0.02 percent of the total daily permitted throughout for the Shoreway Environmental Center, which is permitted for a daily throughput of 3,000 tons of solid waste and recyclables. The amount of solid waste generated by operation of the proposed project would not exceed the landfill capacity. In addition, Allied Waste Management currently provides recycling services to the project site. These services contribute to a reduction in solid waste generated by proposed development. The design and locations of on-site recycling bins serving new development would be subject to City review and approval prior to issuance of building permits. Therefore, development of the proposed project would have a less than significant impact on landfill capacity.

4.9.2.3 Cumulative Impacts

The cumulative geographic context for utilities for development consists of the project site in addition to the surrounding areas and uses abutting the project site.The area surrounding the project site is largely developed with a mix of commercial, residential, public, and infrastructure uses. Development of the proposed project would increase the intensity of residential development within the vicinity of the project site; however, other development projects are dispersed geographically throughout the City such that they would not combine with the project to result in cumulative impacts related to utilities. Additionally, all other cumulative development has been, or will be, subject to development guidance contained within the General Plan, prescribed by zoning and standard COAs, and enforced through the building permit process to avoid demand for utility service that exceeds the City's current capacity. Individual development projects are required to demonstrate that capacity is available and provided by existing infrastructure prior to approval, or is required to construct or pay the fair share towards needed upgrades if existing systems are insufficient. Based on the information in this section and for the reasons summarized above, development of the proposed project would not contribute to any significant adverse cumulative utility impacts when considered together with other cumulative development.

[13] CalRecycle. 2019. Estimated Solid Waste Generation Rates. Website: https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates (accessed August 2021).

5.0 ALTERNATIVES

In accordance with CEQA and the CEQA Guidelines (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the location of the project, that could attain most of the project's basic objectives, while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. An EIR does not need to consider every conceivable alternative to a project, rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

As an EIR identifies ways to mitigate or avoid significant effects that a project may have on the environment, the discussion of alternatives should focus on alternatives to the project or its location that are capable of avoiding or substantially lessening significant effects of the project. The EIR needs to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project, the significant effects of the alternative should be discussed, but in less detail than the significant effects of the project. 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. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

As described in more detail in Chapter 3, Project Description, the proposed project would involve redevelopment of the project site, which is currently developed with a single-story, approximately 10,120-square-foot vacant commercial building, with an approximately 120,164-square-foot, four-story office building, including approximately 95,931 square feet of R&D office use, a ground-level parking podium, and surface parking totaling 210 vehicle spaces, as well as associated open space, circulation and loading, and infrastructure improvements.

As provided by the project sponsor, the objectives of the proposed project are to:

- Align with Foster City General Plan policies designating the project site for research/office park uses;
- Activate a significant but previously neglected intersection and entrance into the Vintage Park neighborhood;
- Create more economic development opportunities in Foster City;
- Support existing businesses within Foster City by bringing additional workers into the City;
- Increase the amount of life sciences research facilities available in Foster City to create economic benefit to the City;
- Create a modern, efficient, and attractive building that will attract life science tenants to Foster City; and

- Enhance Foster City's reputation as a center for life sciences companies within the greater San Francisco Bay Area.

The potential environmental effects of implementing the proposed project are analyzed in Chapter 4, Setting, Impacts, and Mitigation Measures. The proposed project has been described and analyzed in the previous chapters and in the Initial Study (Appendix B), with an emphasis on evaluating significant impacts resulting from the project and identifying mitigation measures to avoid or reduce these impacts to a less-than-significant level. It should be noted that all of the impacts identified for the proposed project can be mitigated to a less-than-significant level with implementation of the recommended mitigation measures.

The two alternatives to the proposed project that are discussed and evaluated in this chapter are the following:

- **No Project Alternative.** Under the No Project alternative, the project site would continue to be occupied by the existing single-story 10,120-square-foot commercial building. It is assumed that the building would continue to be vacant. No modifications to existing site access or infrastructure would occur.

- **Restaurant Alternative.** Under the Restaurant alternative, the project site would continue to be occupied by the existing single-story, 10,120-square-foot commercial building. It is assumed that a new sit down restaurant use would occupy the building. Exterior modifications to the existing building could occur; however, no modifications to the existing site access or infrastructure would occur.

These alternatives represent a reasonable range of potential alternatives to the proposed project in light of the objective of further reducing impacts that are already less than significant with mitigation as identified in this EIR. This EIR determined that the proposed project would result in no significant and unavoidable impacts; therefore, rather than focusing on alternatives that would reduce impacts from significant and unavoidable to less than significant, these alternatives were designed to represent the development for the site envisioned by the Foster City General Plan and Vintage Park Design Guidelines (i.e., commercial restaurant use). A few other potential alternatives were also considered, as discussed later in this chapter; however, none of these alternatives would substantially reduce or avoid the environmental impacts of the proposed project and/or would not meet many of the basic project objectives and were therefore ultimately not selected for further analysis.

The purpose of this discussion of alternatives to the proposed project is to enable decision makers to evaluate the project by considering how alternatives to the project as proposed might reduce or avoid the project's impacts on the physical environment. The analysis in this chapter provides both a quantitative and qualitative evaluation of the environmental impacts that could be associated with each alternative and compares those potential impacts to those identified for the proposed project as described in Chapter 4, Setting, Impacts, and Mitigation Measures of this EIR.

5.1 NO PROJECT ALTERNATIVE

The following provides a description of the No Project alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the No Project alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the No Project alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.1.1 Principal Characteristics

The No Project alternative assumes that the proposed project would not be developed and that the project site would generally remain in its current condition. The project site would continue to be occupied by a single-story 10,120-square-foot commercial building. It is assumed that the existing vacant condition of the building would continue, that the site would remain underutilized, and site maintenance would continue to be deferred. The existing 55 trees on the site would not be removed and no modifications to existing site access of infrastructure would occur.

5.1.2 Analysis of the No Project Alternative

The potential impacts associated with the No Project alternative are described below. As discussed, the No Project alternative would avoid all of the less than significant impacts of the proposed project and no mitigation measures would be required. However, the No Project alternative would also not achieve any of the objectives of the proposed project.

5.1.2.1 Land Use and Planning

Implementation of the No Project alternative would not result in any new construction and would result in the continuation of existing vacant conditions on the project site, and therefore the No Project alternative would not result in the physical division of an established community and would not result in any conflicts with any plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, compared to the less than significant impacts of the proposed project, the No Project alternative would have no impact related to land use and planning. However, it should be noted that the site would continue to be underutilized and would likely remain vacant under the No Project alternative.

5.1.2.2 Aesthetics

Implementation of the No Project alternative would not result in any new construction on the project site, and therefore would not introduce any new buildings or structures that could have substantial adverse effects on scenic vistas, conflict with applicable regulations governing scenic quality, cast any new shadows, or create any new light or glare. Similar to the proposed project, the No Project alternative would not be located near a State scenic highway. Therefore, compared to the less than significant impacts of the proposed project, there would be no impacts related to aesthetics. However, it should be noted that the existing conditions at the site would continue to deteriorate from a lack of maintenance and activity, resulting in degraded visual conditions of the site over time.

5.1.2.3 Transportation

Implementation of the No Project alternative would not result in any increases in automobile, transit, bicycle, or pedestrian travel to or from the project site, as the site is anticipated to remain in its current vacant condition. Therefore, compared to the less than significant impacts of the proposed project, there would be no impact related to conflicts with applicable transportation-related plans, policies and ordinances; vehicle miles traveled (VMT); design hazards; and emergency access. Modifications to the project plans to avoid design hazards, as identified in Mitigation Measures TRA-1 and TRA-2, would not be required under this alternative. Air Quality

Implementation of the No Project alternative would not result in demolition or construction activity within the project site. As a result, pollutant and odor concentrations would not be increased and dust, exhaust, and organic emissions related to construction would not be generated; implementation of COA 9.5 would not be required to reduce construction-period air quality impacts. Similarly, this alternative would not result in new exposure of residents to toxic air contaminants. Finally, this alternative would not result in the development of office uses on the site and would not result in an increase in operational vehicle trips in the city; therefore, the No Project alternative would not result in the less than significant project impacts related to Clean Air Plan implementation. With implementation of the No Project alternative, there would be no impact on air quality.

5.1.2.4 Greenhouse Gas Emissions

Implementation of the No Project alternative would not result in any demolition or construction activity within the project site, nor would new employees be located on the site. As a result, this alternative would not result in the generation of construction-period greenhouse gas (GHG) emissions. Therefore, implementation of COA 9.5 would not be necessary to reduce construction emissions. Similarly, the No Project alternative would not result in an increase in VMT, daily vehicle trips, or utility use (i.e., electricity, water, and wastewater) on the project site; therefore, the No Project alternative would not result in the less than significant project impacts related to operational-period GHG emissions and potential conflicts with applicable plans, policies, or regulations adopted for the purposes of reducing the emission of GHGs. With implementation of the No Project alternative, there would be no impact on GHG emissions.

5.1.2.5 Noise

Implementation of the No Project alternative would not result in any demolition or construction activity within the project site, nor would new employees be located on the site. Therefore, the No Project alternative would not expose surrounding land uses to short-term noise or vibration during construction and implementation of Mitigation Measure NOI-1 would not be required. Noise at the project site would not increase above that already occurring on the site and no increase in traffic noise would occur. With implementation of the No Project alternative, there would be no impact related to noise.

5.1.2.6 Hazards and Hazardous Materials

Implementation of the No Project alternative would not result in any demolition or construction activity within the project site, nor would new employees be located on the site. Therefore, the No

Project alternative would not create significant hazards to the public, including schools within one-quarter mile, or the environment through the routine transport, use, or disposal of hazardous materials or as a result of an accident involving the release of hazardous materials into the environment. No modifications to existing site access or infrastructure would occur, and therefore no impacts related to emergency evacuation plans would occur. The No Project alternative would also not result in any impacts related to hazardous materials sites pursuant to Government Code Section 65962.5, airport-related safety hazards, or wildland fires. With implementation of the No Project alternative, there would be no impact related to hazards and hazardous materials.

5.1.2.7 Public Services

Implementation of the No Project alternative would not result in any demolition or construction activity within the project site, nor would new employees be located on the site. Therefore, the No Project alternative would not result in the provision of additional fire or police services, or the need for any new of physically altered governmental facilities. With implementation of the No Project alternative, there would be no impact related to public services.

5.1.2.8 Utilities and Service Systems

Implementation of the No Project alternative would not result in any demolition or construction activity within the project site, nor would new employees be located on the site. Therefore, the No Project alternative would not require the relocation or construction of any new utilities or new or expanded entitlements, and would not result in the generation of any wastewater or solid waste. With implementation of the No Project alternative, there would be no impact related to utilities and service systems.

5.2 RESTAURANT ALTERNATIVE

The following provides a description of the Restaurant alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the Restaurant alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the Restaurant alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.2.1 Principal Characteristics

The Restaurant alternative assumes that the project site would generally remain in its current condition, but that the existing vacant approximately 10,120-square-foot building would be occupied by a sit down restaurant use, similar to former conditions. Exterior modifications to the existing building and surface parking lot could occur to improve the visual conditions at the site; however, no modifications to the existing site access or infrastructure would occur.

5.2.2 Analysis of the Restaurant Alternative

The potential impacts associated with the Restaurant alternative are described below. As discussed, the Restaurant alternative would avoid all of the less than significant impacts of the proposed

project and no mitigation measures would be required. However, the Restaurant alternative would also not achieve any of the objectives of the proposed project.

5.2.2.1 Land Use and Planning

Implementation of the Restaurant alternative would not result in any new construction or circulation improvements but would result in the location of a new restaurant use within the existing building on the site, consistent with the use envisioned for the site in the Vintage Park Design Guidelines Land Use Map. No discretionary planning approvals would be required since a restaurant is an approved use for the site. Therefore, the Restaurant alternative would not result in the physical division of an established community and would not result in any conflicts with any plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Compared to the less than significant impacts of the proposed project, the Restaurant alternative would have no impact related to land use and planning.

5.2.2.2 Aesthetics

Implementation of the Restaurant alternative would not result in any new construction on the project site, and therefore would not introduce any new buildings or structures that could have substantial adverse effects on scenic vistas, conflict with applicable regulations governing scenic quality, cast any new shadows, or create any new light or glare. Similar to the proposed project, the Restaurant alternative would not be located near a State scenic highway. Therefore, compared to the less than significant impacts of the proposed project, there would be no impacts related to aesthetics. However, it is assumed that with a new restaurant use on the site, the visual conditions at the project site would improve with exterior building improvements and resumed site maintenance and landscaping care.

5.2.2.3 Transportation

Compared to the proposed project, implementation of the Restaurant alternative would result in an increase in vehicle trips to and from the site. As described in Section 4.3, Transportation, trip generation rates per employee were used instead of trip rates per square foot of office use for the proposed project, resulting in 699 daily trips, 78 AM peak hour trips, and 85 PM peak hour trips. For the Restaurant alternative, the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition rates for “High-Turnover (Sit-Down) Restaurant” were used (ITE Code 932), reflecting a similar type of restaurant use as was previously located at the site. At approximately 10,120 square feet, the Restaurant alternative would generate approximately 1,140 daily trips, including 100 AM peak hour trips and 100 PM peak hour trips. Although the number of daily trips would be substantially greater than the proposed project, there would be more variation throughout the day, resulting in only a slightly greater AM and PM peak hour trip generation as compared to the proposed project (approximately 20 more AM and 10 more PM peak hour trips). This increase in the number of trips, combined with no modifications to site access or circulation as compared to current conditions, would not substantially increase the severity of the less than significant project impacts associated with plans and programs that address the circulation system, including transit, roadway, pedestrian, or bicycle facilities. Similarly, emergency access impacts would also continue to be less than significant. Implementation of Mitigation Measures TRA-1 and TRA-2, which recommend site plan modifications to avoid design hazards associated with the proposed project, would not be

required as there would be no impact. Finally, because a restaurant use is considered to be a locally-serving retail use, and because the use would be less than 50,000 square feet in size, according to guidance from the Office of Planning and Research the Restaurant alternative would have no impact on VMT because existing VMT would be redistributed throughout the city. Therefore, implementation of a Transportation Demand Management plan would not be required under the Restaurant alternative. Similar to the proposed project, impacts associated with the Restaurant alternative would be less than significant.

5.2.2.4 Air Quality

Implementation of the Restaurant alternative would not result in demolition or construction activity within the project site. As a result, construction-period pollutant and odor concentrations would not be increased and dust, exhaust, and organic emissions related to construction would not be generated; implementation of COA 9.5 would not be required to reduce construction-period air quality impacts. Similarly, this alternative would not result in new exposure of residents to toxic air contaminants. Finally, although this alternative would result in the operation of a restaurant use on the site and an increase in operational vehicle trips in the city as compared to existing conditions and the proposed project, this increase would only be slightly greater than the increase in vehicle trips associated with the proposed project. Because total operational emissions associated with the proposed project, of which mobile source emissions comprise the majority, are well below established thresholds, this slight increase would not result in a substantial increase in operation-period air quality emissions such that the thresholds established by the BAAQMD would be exceeded and impacts would be less than significant. Therefore, like the proposed project, impacts related to Clean Air Plan implementation and increases in pollutant emissions would be less than significant.

5.2.2.5 Greenhouse Gas Emissions

Implementation of the Restaurant alternative would not result in any demolition or construction activity within the project site. As a result, this alternative would not result in the generation of construction-period GHG emissions. Therefore, implementation of COA 9.5 would not be necessary to reduce construction emissions.

This alternative would result in the operation of a restaurant use on the site and an increase in operational vehicle trips in the city as compared to existing conditions and the proposed project. This increase would be approximately 60 percent greater than the increase in vehicle trips associated with the proposed project. However, as further discussed below, the total annual operational GHG emissions generated by the proposed project, of which mobile source emissions comprise the majority, would be well below established thresholds. Therefore, an increase in vehicle trips would not be anticipated to result in a substantial increase in operation-period GHG emissions. Additionally, under this alternative, new VMT would not be generated and TDM measures would not be required. Furthermore, although the Restaurant alternative would increase utility use (i.e., electricity, water, and wastewater) on the project site compared to existing conditions, the Restaurant alternative would include approximately 92 percent (100,000 square feet) less building area than the proposed project, and therefore energy use (i.e., electricity) and resulting GHG emissions would be anticipated to be substantially less than the proposed project, further offsetting the increase in mobile source emissions. Therefore, similar to the proposed project, the Restaurant

alternative would result in less than significant impacts related to operational-period GHG emissions and potential conflicts with applicable plans, policies, and regulations adopted for the purposes of reducing the emission of GHGs.

5.2.2.6 Noise

Implementation of the Restaurant alternative would not result in any demolition or construction activity within the project site. Therefore, the Restaurant alternative would not expose surrounding land uses to short-term noise or vibration during construction and implementation of Mitigation Measure NOI-1 would not be required. Noise at the project site would increase above that already occurring on the site and, compared to the proposed project, a slightly greater increase in traffic noise would occur. Similar to the proposed project, this increase in traffic noise would not be perceptible along any roadway segments within the site vicinity. With implementation of the Restaurant alternative, noise impacts would be less than significant.

5.2.2.7 Hazards and Hazardous Materials

Implementation of the Restaurant alternative would not result in any demolition or construction activity within the project site. Therefore, the Restaurant alternative would not create significant hazards to the public, including schools within one-quarter mile, or the environment through the routine transport, use, or disposal of hazardous materials or as a result of an accident involving the release of hazardous materials into the environment. Implementation of the City's COAs related to potential release of hazardous materials during demolition and construction activities would not be required. No modifications to existing site access or infrastructure would occur, and therefore no impacts related to emergency evacuation plans would occur. The Restaurant alternative would also not result in any impacts related to hazardous materials sites pursuant to Government Code Section 65962.5, airport-related safety hazards, or wildland fires. Similar to the proposed project, with implementation of the Restaurant alternative, impacts related to hazards and hazardous materials would be less than significant.

5.2.2.8 Public Services

Implementation of the Restaurant alternative would not result in any demolition or construction activity within the project site. The restaurant use would increase the daytime population at the site due to new employees and patrons, but this increase in use compared to the proposed project would not be substantial. Therefore, the Restaurant alternative would not result in the need for the provision of additional fire or police services, or the need for any new of physically altered governmental facilities. Similar to the proposed project, with implementation of the Restaurant alternative, impacts to public services would be less than significant.

5.2.2.9 Utilities and Service Systems

Implementation of the Restaurant alternative would not result in any demolition or construction activity within the project site. The restaurant use would increase the daytime population at the site due to new employees and patrons and would likely have a slightly increased demand for utility services (i.e., water and wastewater) compared to existing conditions, but would have a decreased demand compared to the energy use of the proposed project due to the substantially smaller building size and could be accommodated by existing infrastructure and water entitlements, given

that a restaurant use previously occupied the site. Therefore, the Restaurant alternative would not require the relocation or construction of any new utilities or new or expanded entitlements, and would not result in the substantial generation of any wastewater or solid waste. With implementation of the Restaurant alternative, impacts to utilities and service systems would be less than significant.

5.3 ALTERNATIVES CONSIDERED BUT NOT SELECTED FOR FURTHER ANALYSIS

During the Notice of Preparation (NOP) comment period, the City received verbal and written suggestions for the identification and evaluation of alternatives to the proposed project (see Appendix A of this EIR). The following provides a description of various potential alternatives that were identified and considered, and the reasons why they were ultimately not selected for further evaluation in this EIR.

- **Off-Site Locations.** An alternative location was not considered for analysis because the project sponsor does not own or would not feasibly otherwise be able to gain control of a suitable vacant site within the city. In addition, an overarching objective of the project is to provide for the development of a life sciences campus within the Vintage Park neighborhood. An alternative location located outside of this area would fail to meet this and several objectives of the project. It should also be noted that the project site is an urban infill site with existing infrastructure in close proximity to existing transit. If the proposed project were relocated to a different site that is not as well served by infrastructure and transit, impacts related to transportation, air quality, and greenhouse gas emissions (primarily related to VMT) could be more significant than those identified in this EIR for the proposed project. Therefore, such an alternative was ultimately not selected for further analysis in the EIR.

- **Mixed Office/Restaurant Use.** The project sponsor conducted a financial feasibility analysis of two potential alternative development programs for the project site, in addition to the proposed project.[1] This analysis evaluated the potential for development of a mixed office and restaurant use at the site, which would include approximately 90,431 square feet of R&D use and 5,500 square feet of ground floor retail use within a building similar in size and orientation as the proposed project building. A total of 273 parking spaces would be required (63 additional spaces as compared to the proposed project). Parking would be provided within a surface parking lot and ground floor podium, similar to the proposed project, as well as within an additional below-grade level. Excavation of a below ground parking structure would result in similar but likely greater construction-period impacts due to the increased site excavation activity and overall duration. In addition, construction-period dewatering may be required as the depth of excavation for a below-grade garage would likely encounter groundwater. Because the development intensity of a potential mixed office/restaurant use project would be greater than the proposed project and none of the significant impacts identified for the proposed project would likely be avoided, this alternative was rejected from further analysis.

[1] BAE Urban Economics. 2021. Alternative Development Scenarios for 388 Vintage Park Drive, Foster City, CA. October 19.

- **Residential Use.** The financial feasibility analysis[2] conducted by the project sponsor also evaluated the potential for development of a residential use at the site, which would include approximately 95,931 square feet of residential use within a five-story building, including three levels of residential use containing 93 units (18 of which would be affordable) and a podium level courtyard over two levels of above-grade parking to accommodate 210 spaces. Development of residential use on the site would require a General Plan Amendment and rezoning of the site to allow for non-commercial/office uses. Development of residential uses on the site may also require on- and off-site access and circulation improvements. Residential uses would have a lower trip generation potential compared to the proposed project (due to the number of units that can be accommodated on the site compared to the number of employees that would be generated by the proposed project); however, residential uses would generate new VMT and, similar to the proposed project, a TDM program would likely be required to reduce VMT to below established significance thresholds. Because the development intensity of a potential residential use project would be greater than the proposed project and none of the significant impacts identified for the proposed project would likely be avoided, this alternative was rejected from further analysis.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based on the above analysis, the No Project alternative would have the fewest impacts and would be the environmentally superior alternative. Under CEQA, if the No Project alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). While the No Project alternative would be environmentally superior in the technical sense in that contribution to the aforementioned impacts would not occur, it would also fail to achieve any of the project's objectives.

As discussed above, the Restaurant alternative would reduce the potentially significant impacts of the proposed project related to construction and would not require the implementation of mitigation measures identified for the proposed project. Further, the Restaurant alternative would not require a General Development Plan Amendment or rezoning or any other discretionary approvals. Therefore, the Restaurant alternative is considered the environmentally superior alternative. However, this alternative would fail to meet the basic project objectives. It is also unlikely that market conditions would be conducive to a new restaurant use within the existing building on the site, and the site may continue to be subject to deferred maintenance and a lack of activity for the foreseeable future.

[2] BAE Urban Economics. 2021. Alternative Development Scenarios for 388 Vintage Park Drive, Foster City, CA. October 19.

6.0 OTHER CEQA CONSIDERATIONS

As required by CEQA, this chapter discusses the following types of impacts that could result from implementation of the proposed project: growth-inducing impacts; significant irreversible changes; effects found not to be significant; and significant unavoidable effects.

6.1 GROWTH INDUCING IMPACTS

This section summarizes the project's potential growth-inducing impacts on the surrounding community. A project is typically considered growth-inducing if it would foster economic or population growth or the construction of additional housing; if it would remove obstacles to population growth or tax community services to the extent that the construction of new facilities would be necessary; or if it would encourage or facilitate other activities that cause significant environmental effects.[1] Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped.

The proposed project consists of the demolition of the existing restaurant building on the project site and the construction of an approximately 120,164-square-foot office/R&D building. Development of the proposed project would not result in direct population growth within the City, as it would not include residential units. However, the proposed project would introduce 213 new employees to the project site, and therefore could induce indirect population growth resulting from employees moving to the city solely for purposes of employment. As described in the Initial Study prepared for the proposed project (included in Appendix B), based on existing employment trends in the city, this growth could potentially result in the need for up to 17 new residential units (assuming new employees live in separate households and do not currently live in Foster City). This is a conservative estimate. The projected housing units expected to be constructed in Foster City in the near term (approximately 332 dwelling units at the nearby Pilgrim Triton project and 152 senior housing units at the nearby Foster Square project) would more than satisfy the potential demand for housing associated with the proposed project. Therefore, the proposed project would not induce substantial population growth in the City, and new residents could be housed in either existing dwelling units or those that are currently under or planned for construction.

Additionally, the proposed project would consist of redevelopment of an existing urbanized site and would not require the extension of utilities or roads into undeveloped areas or directly or indirectly lead to the development of greenfield sites. Due to the location of the project site and the presence of existing uses on and in the vicinity of the site, construction of the proposed project would not induce unplanned growth in the area. Therefore, the growth that would occur as a result of the proposed project would not be substantial or adverse.

[1] *CEQA Guidelines*, 2021. Section 15126.2(d).

6.2 SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that could result from implementation of a proposed project. These may include current or future uses of non-renewable resources, and secondary growth-inducing impacts that commit future generations to similar uses. CEQA suggests that irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. Each of these three categories is further detailed below.

6.2.1 Changes in Land Use Which Commit Future Generations

The proposed project would allow for the redevelopment of an approximately 2.2-acre site vacant and underutilized site located in an urbanized area of Foster City. The project site and immediate area are surrounded by a mix of commercial, office, and residential development, and the site is designated Research/Office Park, which is intended for areas containing office, research and development, and manufacturing establishments with clean and quiet operations. Because the project would occur on an infill site in which a variety of land uses may be considered under the General Plan and Municipal Code, and because in the future, the site could be rezoned, in which case at the end of the useful life of the project, the use could change, it would not commit future generations to a significant change in land use.

6.2.2 Irreversible Damage from Environmental Accidents

No significant environmental damage, such as accidental spills or explosion of a hazardous material, is anticipated with implementation of the proposed project. Compliance with federal, State, and local regulations, and COAs 2.17, 2.18, 2.19, 3.1, 3.4, and 9.13, as outlined in Section 4.7, Hazards and Hazardous Materials of this EIR, would ensure that this potential impact would be reduced to a less-than-significant level. As such, no irreversible changes – such as those that might result from construction of a large-scale mining project, a hydroelectric dam project, or other industrial project – would result from development of the proposed project.

6.2.3 Consumption of Nonrenewable Resources

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in the Initial Study (Appendix B), the State Department of Conservation designates the site as "Urban and Built-Up Land," and the site is located in an urbanized area of Foster City. Therefore, no existing agricultural lands would be converted to non-agricultural uses. In addition, the project site does not contain known mineral resources and does not serve as a mining reserve; thus, development of the proposed project would not result in the loss of access to mining reserves. Please refer to Sections 4.2 and 4.12 of the Initial Study included in Appendix B for a discussion of impacts related to agricultural and mining resources, respectively.

Construction of the proposed project would require the use of energy, including energy produced from non-renewable resources. Energy consumption would also occur during the operational period of the proposed project. As discussed in Section 4.6, Energy, of the Initial Study, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design,

equipment use, and transportation. Additionally, the proposed project would not require the construction of major new lines to deliver energy or natural gas as these services are already provided in the area. Therefore, the proposed project would not result in a significant impact associated with the consumption of nonrenewable resources.

6.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

The environmental topics analyzed in Chapter 4, Setting, Impacts, and Mitigation Measures, represent those topics which generated the greatest potential controversy and expectation of adverse impacts associated with development of the proposed project. As discussed in more detail in the Initial Study (Appendix B) the following topics are not addressed in this EIR because impacts related to these topics either would not occur or would be less than significant with implementation of applicable standard COAs or mitigation measures. A summary of the conclusions provided in the Initial Study analysis for each of the topics scoped out of the EIR is provided below.

6.3.1 Agricultural and Forestry Resources

The project site and vicinity are located within an urban area in Foster City. The site is currently zoned as C-M/PD on the City's Zoning Map and is classified as "Urban and Built-Up Land" by the State Department of Conservation.[2] The project site is not used for agricultural production nor does it support forestry resources. Therefore, there would be no impact to agricultural and forestry resources.

6.3.2 Biological Resources

The project site and vicinity are located with an urban area in Foster City. The project site does not provide suitable habitat for any special-status plant species due to prior disturbance at the project site and the resulting lack of native plant communities, such as wetlands, salt marsh, woodlands, and grasslands. The proposed project would result in the removal of mature trees and a vacant building, which could provide habitat for nesting birds and bats. However, implementation of Mitigation Measures BIO-1 and BIO-2, which are standard construction-period measures that are applicable to all construction projects that have the potential to impact nesting bird and bat species, would ensure that these impacts are less than significant. The project site does not contain any riparian habitat, wetlands, or wildlife movement corridors, and is not located within the boundaries of any adopted Habitat Conservation Plan. Compliance with COA 8.12 and implementation of the tree preservation guidelines within the arborist report prepared for the proposed project would ensure the proposed project would not conflict with any local policies protecting biological resources.

6.3.3 Cultural Resources

As described in the Initial Study, the existing building on the project site was built in the 1990s and is not identified as a historic resource by the City. Given the presence of fill material in all excavation areas (with the exception of the auger-cast piles, which are a type of localized disturbance providing limited potential to identify cultural resources), the likelihood of encountering intact historical

[2] California Department of Conservation, 2016. Division of Land Use Resource Protection. California Important Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff (accessed February 19, 2019).

archaeological deposits during project construction activities is low. Implementation of COA 9.11 would ensure that the proposed project would have less than significant impacts related to the accidental discovery of archaeological and historical resources. Implementation of COA 9.12 would ensure potential impacts related to the accidental discovery of human remains would be less than significant.

6.3.4 Energy

As described in the Initial Study, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources.

Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with the project. However, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the California Energy Commission's (CEC's) 2020 Integrated Energy Policy Report. Thus, the project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy.

6.3.5 Geology and Soils

The project site is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone or an active or potentially active fault. Adherence to the requirements and guidelines of the 2019 CBC and the final design-level geotechnical investigation as required by COA 2.2 would ensure that potential impacts related to seismic ground shaking would be less than significant. The project site is located within a liquefaction hazard zone, however, the Geotechnical Investigation[3] concluded that the potential for liquefaction, liquefaction-induced settlement, and ground failures associated with liquefaction, such as lateral spreading, during a Maximum Considered Earthquake is low. The project site is not located within a landslide hazard zone as designated on a map prepared by the California Geological Survey (CGS). Compliance with the Construction General Permit and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would ensure that the project would result in a less than significant impact related to erosion or loss of top soil during construction of the project. During operation of the proposed project, the project site would be covered with a new building, pavement surfaces, and landscaping, which would minimize post-development erosion. The project site is underlain by Bay Mud, which is considered to have low paleontological sensitivity. Additionally, implementation of COA 2.2 would ensure that impacts to paleontological resources would be less than significant.

[3] Rockridge Geotechnical. 2021. *Geotechnical Investigation and Ground Motion Analysis Report, Proposed Life Science Building, 388 Vintage Park Drive, Foster City, California*. April 13.

6.3.6 Hydrology and Water Quality

Compliance with the requirements of the Construction General Permit, the Municipal Regional Permit (MRP), local and National Pollutant Discharge Elimination System (NPDES) regulatory requirements, and with the City's COAs would ensure that water quality impacts due to discharge of construction-related stormwater runoff, dewatering effluent, and water quality during operation of the project would be less than significant. Groundwater on site would not be used during the operation phase of the project. Compliance with the City's COAs would ensure that the potential impacts related to on-site and off-site flooding and exceedance of the local stormwater system drainage capacity as a result of changes in drainage patterns would be less than significant. Potential flood heights resulting from a dam failure near the project site would be below the crest height (6 feet) of a levee along the Marina Lagoon in the city, and therefore it is highly improbable that a failure would cause inundation in the city or at the project site. Seiches are not considered a hazard in the San Francisco Bay based on the natural oscillations of the Bay. Based on a map prepared by the California Geological Survey (CGS), the project site is not designated as a tsunami hazard area. There is currently no approved groundwater management plan for the Santa Clara Valley Groundwater Basin, San Mateo Plain Subbasin, and therefore the project would not conflict with a groundwater management plan. Therefore, impacts related to hydrology and water quality would be less than significant.

6.3.7 Mineral Resources

The project site is located within an urban area on a developed site. Additionally, the CGS does not identify known mineral resources or mineral recovery sites within or adjacent to the project site. Therefore, the proposed project would not result in the loss of availability of a known mineral resource of value to the region or residents of the State or the loss of availability of a locally-important mineral resource recovery site.

6.3.8 Population and Housing

The proposed project does not include housing, and therefore would not directly induce population growth on the project site. The proposed project could potentially increase demand for housing in Foster City by 17 units. However, this determination is likely an overestimate, as new jobs created would reasonably be expected to attract existing City residents due to lifestyle advantages and shortened commutes. Additionally, employees would likely commute from various communities throughout the Bay Area due to the proximity of SR 92 and US 101. The project site does not contain any housing, and therefore would not displace any existing people or housing. Population and housing impacts would therefore be less than significant.

6.3.9 Public Services (Schools, Park, and Other Public Facilities)

The proposed project does not include any residential uses, and would not directly affect student population. A fraction of employees may move to Foster City solely for employment, but this growth would only result in an incremental increase in student population, and may be spread amongst the whole school district, depending upon place of residence. Development of the project is unlikely to increase the demand for other public services, including parks, libraries, community centers, and public health care facilities, because no direct population growth would occur. In addition, the

proposed project includes on-site open space and a private roof deck that would be utilized by employees. Therefore, the proposed project would not result in an adverse effect on public services and would not require the construction of new facilities and these impacts would be less than significant.

6.3.10 Recreation

Project employees and visitors to the project site would be expected to use local parks and community facilities in the vicinity as well as regional recreational facilities. Although new employees and visitors associated with the proposed project could incrementally increase the use of these facilities, this minor increase in use is not expected to result in substantial physical deterioration of local parks, trails, and community centers and this impact would be less than significant.

6.3.11 Tribal Cultural Resources

The City sent letters describing the proposed project and maps depicting the project site to Native American tribes that the Native American Heritage Commission identified as traditionally and culturally affiliated with the project area. To date, no California Native American tribe has formally requested consultation with the City, consistent with the requirements of Public Resources Code 21080.3.1. As such, formal City-tribal government consultations for the proposed project were not initiated. The project would have no impact on known tribal cultural resources.

6.3.12 Wildfire

The project site and adjacent areas are not located in a Very High Fire Hazard Severity Zone as mapped by the California Department of Forestry and Fire Protection (CAL FIRE) and the project site is not located within any State responsibility areas (SRA) for fire service. The project site project is generally level, and is bound by existing development on all sides. Therefore, the proposed project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and this impact would be less than significant.

6.4 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

Implementation of the proposed project would not result in any significant unavoidable impacts.

7.0 REPORT PREPARATION

7.1 REPORT PREPARERS

7.1.1 City of Foster City

610 Foster City Boulevard
Foster City, CA 94404

Marlene Subhashini, Community Development Director
Sofia Mangalam, Planning Manager
Shannon Allen, Consulting Planner
Martin Cooper, Chief Building Official
Matthew Farrell, Principal Building Inspector
Lawrence Tam, Associate Civil Engineer
Marcus Terry, Corporal, Foster City Police Department
Michele Orque, Fire Inspector, San Mateo Consolidated Fire Department

7.1.2 LSA Associates, Inc. (Prime Consultant)

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Point Richmond, CA 94801

Theresa Wallace, AICP, Principal in Charge
Matthew Wiswell, AICP, Assistant Project Manager/Planner
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Jordan Roberts, Noise Specialist
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Jennette Bosseler-Crockett, Document Management
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Amy Fischer, Principal, Air Quality and GHG Specialist
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7.1.3 Fehr & Peers (Transportation)

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San Francisco, CA 94101

Matt Goyne, PE, Senior Associate
Katelyn Stangl, Transportation Planner

7.1.4 Baseline Environmental Consulting (Hazards and Hazardous Materials)

5900 Hollis Street, Suite D
Emeryville, CA 94608

Patrick Sutton, Environmental Engineer III, PE
Mengzhu (Lisa) Luo, Environmental Engineer I

7.2 REFERENCES

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388 VINTAGE PARK DRIVE PROJECT
ENVIRONMENTAL IMPACT REPORT
TECHNICAL APPENDICES

STATE CLEARINGHOUSE NO. 2021070398

FOSTER CITY, CALIFORNIA

LSA

December 2021

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APPENDIX A

NOTICE OF PREPARATION AND COMMENT LETTERS

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City of Foster City

ESTERO MUNICIPAL IMPROVEMENT DISTRICT

610 FOSTER CITY BOULEVARD
FOSTER CITY, CA 94404-2222

NOTICE OF PREPARATION (NOP)

TO: State Clearinghouse
Affected Agencies
Property Owners within 1,000 Feet of the Affected Property
Interested Organizations and Persons

FROM: City of Foster City

Subject: **Notice of Preparation of an Environmental Impact Report for the 388 Vintage Park Drive Project**

Lead Agency: **City of Foster City**
610 Foster City Boulevard
Foster City, CA 94404
(650) 286-3244

Contact: **Sofia Mangalam**
Planning Manager
smangalam@fostercity.org
(650) 286-3244

Notice is hereby given that the City of Foster City (City) will be the Lead Agency and will prepare a focused Environmental Impact Report (EIR) for the proposed 388 Vintage Park Drive Project (project), pursuant to the California Environmental Quality Act (CEQA). We are requesting comments on the scope and content of the EIR. The City will use the EIR to be prepared for the proposed project when considering approval of the project. A description of the proposed project, its location, and the probable environmental effects are provided in the attached materials. Please provide comments on the scope of this EIR to Sofia Mangalam, Planning Manager, by **5:00 p.m. on August 19, 2021**, at the address shown above.

Further notice is hereby given that, pursuant to Section 15082 of the CEQA Guidelines, a public scoping session will be held before the Planning Commission to accept comments from Responsible Agencies and the public regarding the scope of the EIR on **August 12, 2021,** at **7:00 p.m.** In response to the ongoing COVID-19 pandemic, the Planning Commission meeting will be held remotely via Zoom, which can be accessed at: www.fostercity.org/agendasandminutes.

PROJECT TITLE: 388 Vintage Park Drive Project

PROJECT APPLICANT: W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC (a Joint Venture by SteelWave and Helios Real Estate Partners)

PROJECT LOCATION AND EXISTING CONDITIONS: The project site is located north of State Route (SR 92) in the Vintage Park neighborhood in the City of Foster City, San Mateo County, as shown in Figure 1. The approximately 2.2-acre project site is located at 388 Vintage Park Drive (Assessor's Parcel Number [APN]: 094-901-270) and is generally surrounded by a mix of uses, consisting of mostly new construction. The project site is bordered to the north by a commercial building, to the east by Vintage Park Drive, to the south by a small park owned by the Vintage Park Community Association (VPCA), and to the west by The Home Depot.

The generally-level project site is currently developed with a single-story approximately 10,120-square-foot vacant commercial building. The existing building was constructed in approximately 1990 and was previously occupied by a restaurant (El Torito) until November 2018. A total of 178 surface parking spaces are provided across the project site. Vegetation on the site consists of small landscaped areas along the eastern border of the project site and approximately 55 mature trees throughout the site.

PROJECT DESCRIPTION: The proposed project would result in the demolition of the existing commercial building and construction of an approximately 95,931-square-foot, four-story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) "B occupancy" research and development (R&D) office building including a ground-level parking garage with approximately 180 vehicle parking spaces, as well as associated open space, circulation and parking, and infrastructure improvements, as shown in Figure 2.

The proposed building would be located in the center of the project site. The second and third floors of the proposed building would each be approximately 33,000 square feet in size, while the fourth floor would be approximately 27,000 square feet. Approximately 50 percent of the building would be occupied by laboratory space and 50 percent would be occupied by office space, distributed evenly throughout each floor. The mechanical penthouse would occupy approximately 20,000 square feet on the rooftop. It is anticipated that approximately 213 employees would be accommodated on the project site. A total of approximately 28,000 square feet of open space would be provided across the entire project site, including common ground floor open space, and an approximately 6,000-square-foot rooftop terrace on the fourth level.

PROJECT APPROVALS: The project site is designated Research/Office Park in the City's General Plan and is within the Commercial Mix District/Planned Development Combining District (C-M/PD). The project site is also part of the Vintage Park General Development Plan, which designates the site for restaurant use. The following City discretionary approvals would be required prior to development at the project site:

- Environmental Assessment
- General Development Plan Amendment/Rezoning
- Specific Development Plan/Use Permit
- Use Permit Modification (Amendments to Vintage Park Design Guidelines)
- Encroachment Permit

- Transportation Permit

PROBABLE ENVIRONMENTAL EFFECTS: An Initial Study has been prepared and is available online at: www.fostercity.org/commdev/project/388-vintage-park-drive-ea2021-0001-rz2021-0003-up2021-0023-up2021-0024. Due to the ongoing COVID-19 pandemic, paper copies are not currently available for review. If you require additional assistance, please contact Sofia Mangalam at the address shown above. Based on the findings of the Initial Study, the EIR for this project is anticipated to examine the following probable environmental effects of the proposed project:

- Aesthetics
- Air Quality;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Land Use and Planning;
- Noise;
- Public Services (fire and police);
- Transportation; and
- Utilities and Service Systems

Based on the conclusions in the Initial Study, the following topics will be scoped out of the EIR: agriculture and forestry resources; biological resources; cultural resources; energy; geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning; noise; mineral resources; public services (schools and other services); recreation; and wildfire. The Initial Study determined that there would be no impact to these topic areas or that impacts would be less than significant.

The level of analysis for these subject areas may be refined or additional subject areas may be analyzed based on further study, responses to this NOP and/or refinements to the proposed project that may occur subsequent to the publication of this NOP. In addition, the EIR will include an analysis of the project's consistency with relevant City and regional planning policies, as well as potential alternatives to the proposed project.

Sofia Mangalam
Sofia Mangalam (Jul 15, 2021 07:17 PDT)

Sofia Mangalam, Planning Manager

July 21, 2021

Attachments: Figure 1: Project Location and Regional Vicinity Map
Figure 2: Proposed Conceptual Site Plan

LSA

FIGURE 1

388 Vintage Park Drive Project NOP
Project Location and Regional Vicinity Map

SOURCE: ESRI World Map (06/19).

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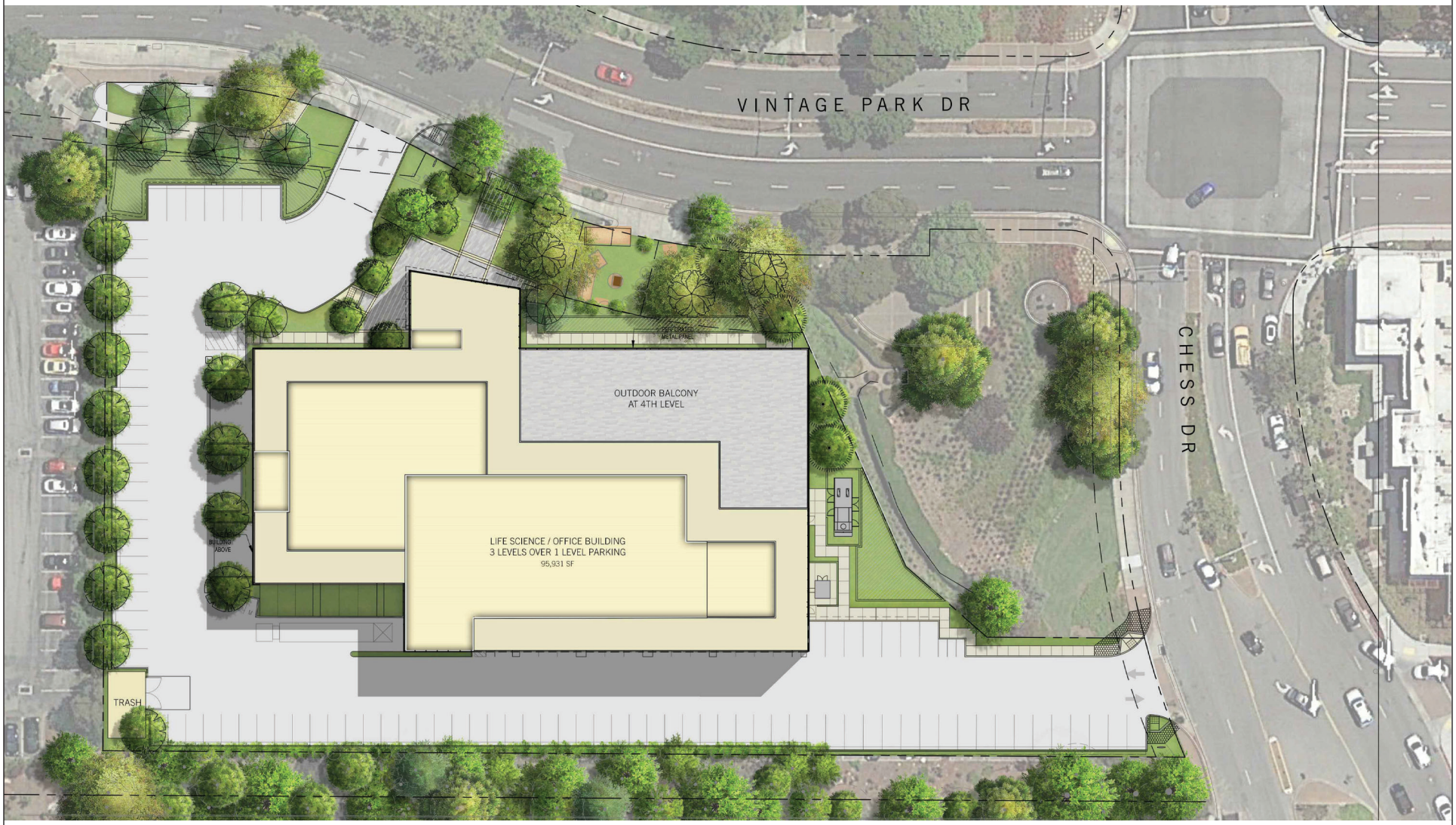

LSA

FIGURE 2

Project Boundary

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388 Vintage Park Drive Project NOP
Proposed Conceptual Site Plan

SOURCES: DES; HELIOS; STEELWAVE, April 18, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-6.ai (6/21/2021)

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

August 19, 2021

SCH #: 2021070398
GTS #: 04-SM-2021-00376
GTS ID: 23876
Co/Rt/Pm: SM/92/13.29

Sofia Mangalam, Planning Manager
City of Foster City
610 Foster City Boulevard
Foster City, CA 94404

Re: 388 Vintage Park Drive Notice of Preparation (NOP)

Dear Sofia Mangalam:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 388 Vintage Park Drive project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the July 2020 NOP.

Project Understanding
The proposed project consists of the demolition of a commercial building and construction of an approximately 95,931-square-foot, four-story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) "B occupancy" research and development (R&D) office building including a ground-level parking garage with approximately 180 vehicle parking spaces. The project site is located north of State Route (SR 92) in the Vintage Park neighborhood in the City of Foster City, San Mateo County.

Travel Demand Analysis
With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Transportation Impact Studies, please review Caltrans' Transportation Impact Study Guide (*link*).

If the project meets the screening criteria established in Foster City's adopted Vehicle Miles Traveled (VMT) policy to be presumed to have a less-than-significant VMT impact and exempt from detailed VMT analysis, please provide justification to support the exempt status in align with the City's VMT policy. Projects that do not meet the screening criteria should include a detailed VMT analysis in the DEIR, which should include the following:

- VMT analysis pursuant to the City's guidelines or the Office of Planning and Research's (OPR) Technical Advisory. Projects that result in automobile VMT per capita above the threshold of significance for existing (i.e. baseline) city-wide or regional values for similar land use types may indicate a significant impact. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies such as Caltrans are fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the City.

- A schematic illustration of walking, biking and auto conditions at the project site and study area roadways. Potential safety issues for all road users should be identified and fully mitigated.

- The project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities and transit performance should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access to pedestrians, bicycle, and transit facilities must be maintained.

- Clarification of the intensity of events/receptions to be held at the location and how the associated travel demand and VMT will be mitigated.

Mitigation Strategies
Location efficiency factors, including community design and regional accessibility, influence a project's impact on the environment. Using Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the proposed project site is identified as a Close-In Compact Community where community design is fair and regional accessibility is strong.

Given the place, type and size of the project, the DEIR should include a robust Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions from future development in this area. The measures listed below have been quantified by California Air Pollution Control Officers Association (CAPCOA) and shown to have different efficiencies reducing regional VMT.

- Project design to encourage mode shift like walking, bicycling and transit access;
- Transit and trip planning resources such as a commute information kiosk;

- Real-time transit information systems;
- Implementation of a neighborhood electric vehicle (EV) network, including designated parking spaces for EVs;
- Designated parking spaces for a car share program;
- Wayfinding and bicycle route mapping resources;
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement;
- VMT Banking and/or Exchange program;
- Orientation of project towards non-auto corridor;
- Incorporation of bicycle lanes in street design;
- Pedestrian network improvements;
- Limiting parking supply; or
- Bike parking near transit facilities.

Using a combination of strategies appropriate to the project and the site can reduce VMT, along with related impacts on the environment and State facilities. TDM programs should be documented with annual monitoring reports by a TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets.

Please reach out to Caltrans for further information about TDM measures and a toolbox for implementing these measures in land use projects. Additionally, Federal Highway Administration's Integrating Demand Management into the Transportation Planning Process: A Desk Reference (Chapter 8). The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Transportation Impact Fees

We encourage a sufficient allocation of fair share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT. Caltrans welcomes the opportunity to work with the City and local partners to secure the funding for needed mitigation. Traffic mitigation- or cooperative agreements are examples of such measures.

Please identify in text and graphics existing and proposed improvements for the pedestrian, bicycle, and transit networks. The City should estimate the cost of needed improvements, expansion, and maintenance for the Plan area, as well as identify viable sources of funding, correlated with the pace of improvements, and a scheduled plan for implementation along with the DEIR.

Lead Agency
As the Lead Agency, the City of Foster City is responsible for all project mitigation, including any needed improvements to the State Transportation Network (STN). The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Equitable Access
If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Laurel Sears at laurel.sears@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please email LDIGR-D4@dot.ca.gov.

Sincerely,

Mark Leong

MARK LEONG
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

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EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

July 22, 2021

Sofia Mangalam, Planning Manager
City of Foster City
610 Foster City Boulevard
Foster City, CA 94404

Re: 2021070398, 388 Vintage Park Drive Project, San Mateo County

Dear Ms. Mangalam:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

cc: State Clearinghouse

-----Original Message-----
From: Sofia Mangalam <smangalam@fostercity.org>
Sent: Thursday, August 5, 2021 5:50 PM
To: Theresa Wallace <[redacted]>
Subject: Re: 388 Vintage project

Theresa,
Please see below.

Sent from my iPhone

> On Aug 6, 2021, at 5:08 AM, Nicholas Haddad <[redacted]> wrote:
>
> Hi Sofia:
>
> I'm reviewing the documents for the proposed redevelopment project at 388 Vintage and noticed that the Initial Study discuss the findings of the Geotechnical Engineering Study but the report is not included in the documents.
>
> Could you please email me the Geotechnical report.
>
> Thank you,
>
> Nicolas
>
> Sent from my iPhone

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

MEMORANDUM

DATE: August 19, 2021

TO: Sofia Mangalam, Planning Manager, City of Foster City

FROM: Theresa Wallace, AICP, Principal/Project Manager
Matthew Wiswell, AICP, Planner

SUBJECT: 388 Vintage Park Drive Scoping Session Notes

On August 12, 2021 the City of Foster City Planning Commission held a Scoping Session for the Environmental Impact Report (EIR) to be prepared for the proposed 388 Vintage Park Drive Project. LSA provided an overview of the CEQA process, which was followed by questions and comments from the Planning Commission. A project preview was also held prior to the Scoping Session, however, these notes only summarize questions and comments related to the EIR.

Commission Member Questions and Comments

Nicolas Haddad

- Have hazards been looked at, especially inside the building? Is there any oil or other leftover hazards at the site?
    - City Staff Response: Hazards is a topic that will be evaluated in the EIR.
    - LSA Response: The site will be surveyed for hazardous materials
- Noise, greenhouse gas emissions (GHG), and hazards and hazardous materials are generally the areas of concern, but the topics that will be in the EIR generally seems appropriate.

Ravi Jagtiani

- The project is anticipated to have 230 employees, which could result in up to 17 new housing units needed in the City. There's a concern with a tenant not in place that a different use than this (i.e., retail or more traditional commercial) could result in more housing needed. Would like to know how development here would impact Regional Housing Needs Allocation (RHNA) numbers.

    - City Staff Response: City staff will continue to look into this topic and discuss it with the commission, as it is a Citywide issue. This project's impact on housing availability is not anticipated to be significant, and therefore it's not going to be further analyzed in the EIR.

- Potable water availability resulting from increased housing demand should be studied – an increase in employees and housing demand would mean an increase in water demand.

    - City Staff Response: This project was included in the recent Urban Water Management Plan (UWMP) update. The development assumptions for the site in the UWMP closely match the RHNA

Evan Adams

- Questions substances on the site – likely grease traps as this was a restaurant previously
- RHNA numbers and VMT are closely related
- Emergency access and anticipated routes through the City (i.e., path of travel) needs to be shown
- Transportation analysis needs to be based on pre-COIVD data

APPENDIX B

INITIAL STUDY

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388 VINTAGE PARK DRIVE PROJECT
INITIAL STUDY

FOSTER CITY, CALIFORNIA

LSA

July 2021

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388 VINTAGE PARK DRIVE PROJECT
INITIAL STUDY

FOSTER CITY, CALIFORNIA

Submitted to:

Sofia Mangalam, Planning Manager
City of Foster City
Community Development Department
610 Foster City Boulevard
Foster City, California 94404

Prepared by:

LSA
157 Park Place
Pt. Richmond, California 94801
510.236.6810

Project No. CFS2101

LSA

July 2021

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TABLE OF CONTENTS

APPENDICES

FIGURES AND TABLES

FIGURES

TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

APN	Assessor's Parcel Number
ASCE	American Society of Civil Engineers
BAAQMD	Bay Area Air Quality Management District
BAT	Best Available Technology
Bay	San Francisco Bay
BCT	Best Conventional Technology
BMP	best management practices
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CBC	California Building Code
CEC	California Energy Commission
CESA	California Endangered Species Act
CGS	California Geological Survey
C-M	Commercial Mix District
PD	Planned Development Combining District
COA	Condition of Approval
CWA	Clean Water Act
DOT	U.S. Department of Transportation
EIR	Environmental Impact Report
EMID	Estero Municipal Improvement District
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EV	electric vehicle

FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
Gilead	Gilead Sciences, Inc.
GWh	gigawatt-hours
IBC	International Building Code
kWh	kilowatt-hours
LCSD	Lower Crystal Springs Dam
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MRP	Municipal Regional Permit
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
PG&E	Pacific Gas & Electric
proposed project	388 Vintage Park Drive Project
project sponsor	W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC (a Joint Venture by SteelWave and Helios Real Estate Partners)
PVC	Polyvinyl chloride
QSP	Qualified SWPPP Practitioner
R&D	research and development
SB50	Senate Bill 50
SMFCSD	San Mateo-Foster City School District

SMUHSD	San Mateo Union High School District
SR 92	State Route 92
SRA	State Responsibility Areas
SWCP	Stormwater Control Plan
SWPPP	Stormwater Pollution Prevention Plan
TIA	Transportation Impact Analysis
TMDL	total maximum daily load
TPZ	Tree Protection Zone
US 101	U.S. Highway 101
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
VPCA	Vintage Park Community Association
ZE	zero emission

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1.0 PROJECT INFORMATION

The following is an Initial Study/Environmental Checklist for the proposed 388 Vintage Park Drive Project (proposed project). This checklist will be used to identify areas to be further discussed in an Environmental Impact Report (EIR). This Initial Study was prepared in compliance with the City of Foster City/Estero Municipal Improvement District (EMID) Environmental Review Guidelines.[1]

1. **Project Title:**

   388 Vintage Park Drive Project

2. **Lead Agency Name and Address:**

   City of Foster City
   610 Foster City Boulevard
   Foster City, CA 94404

3. **Contact Person and Phone Number:**

   Sofia Mangalam, Planning Manager
   City of Foster City
   Community Development Department

   Phone: 650-286-3244
   Email: SMangalam@fostercity.org

4. **Project Location:**

   388 Vintage Park Drive
   Foster City, San Mateo County
   Assessor's Parcel Number (APN): 094-901-270

5. **Project Sponsor's Name and Address:**

   W-SW 388 Owner IX, L.P. c/o SteelWave CDS, LLC
   (a Joint Venture by SteelWave and Helios Real Estate Partners)
   999 Baker Way, Suite 200
   Foster City, CA 94404

6. **General Plan Designation:** Research/Office Park

7. **Zoning:** Commercial Mix District/Planned Development Combining District (C-M/PD)

8. **Description of Project:**

This section describes the proposed project submitted by the Joint Venture by SteelWave and Helios Real Estate Partners (project sponsor). A description of the proposed project's location and context

[1] Foster City, City of/Estero Municipal Improvement District. 2007. *Environmental Review Guidelines.* October 1.

is followed by details of the proposed project itself and a summary of required approvals and entitlements.

Project Site

The following describes the geographic context of the project site and provides a brief overview of the existing land uses within the vicinity of the site.

Regional Location and Access

The approximately 2.2-acre project site is located at 388 Vintage Park Drive in Foster City, San Mateo County. Foster City is located approximately 23 miles south of San Francisco, at the southwest edge of San Francisco Bay (Bay).

Regional vehicular access to the project site is provided by State Route 92 (SR 92) via the Foster City Boulevard on- and off-ramps located to the east and US Highway 101 (US 101), via the SR 92 interchange to the southwest. Direct local access is via Vintage Park Drive and Chess Drive, which border the site immediately to the east and south. The project site is served by two nearby Caltrain stations: the Hayward Park Caltrain station is located approximately 2.5 west of the project site, providing weekday service from San Francisco to Gilroy and weekend service from San Francisco to San Jose and the Hillsdale Caltrain station is located 3.4 miles to the southwest. The site is also served by two bus lines, the FCX and 251. The FCX bus line runs from the project site to downtown San Francisco and the 251 bus line runs from the project site to downtown Foster City, the Hillsdale Mall, and the Hillsdale Caltrain Station.

Figure 1-1 depicts the site's regional and local context. Figure 1-2 is an aerial photograph of the project site and the vicinity.

Site Characteristics and Current Site Conditions

The generally level project site is currently developed with a single-story approximately 10,120-square-foot vacant commercial building. The existing building was constructed in approximately 1990 and was previously occupied by a restaurant (El Torito) until November 2018. Ingress and egress to the project site is provided by a driveway at the northeast corner of the project site along Vintage Park Drive and another driveway at the southwest corner of the site along Chess Drive. A total of 178 surface parking spaces are provided across the project site. Vegetation on the site consists of small landscaped areas along the eastern border of the project site and approximately 55 mature trees throughout the site.

A number of existing easements are located on the site, including an approximately 35-foot-wide Estero Municipal Improvement District (EMID) landscape and sanitary sewer easement along the eastern boundary, a 25-foot emergency vehicle access easement that runs along the western and northern borders, a 12-foot public utility easement along the southern border, and a 10-foot Pacific Gas & Electric (PG&E) easement in the northeast corner.

LSA

LEGEND

Project Site Boundary

FIGURE 1-1

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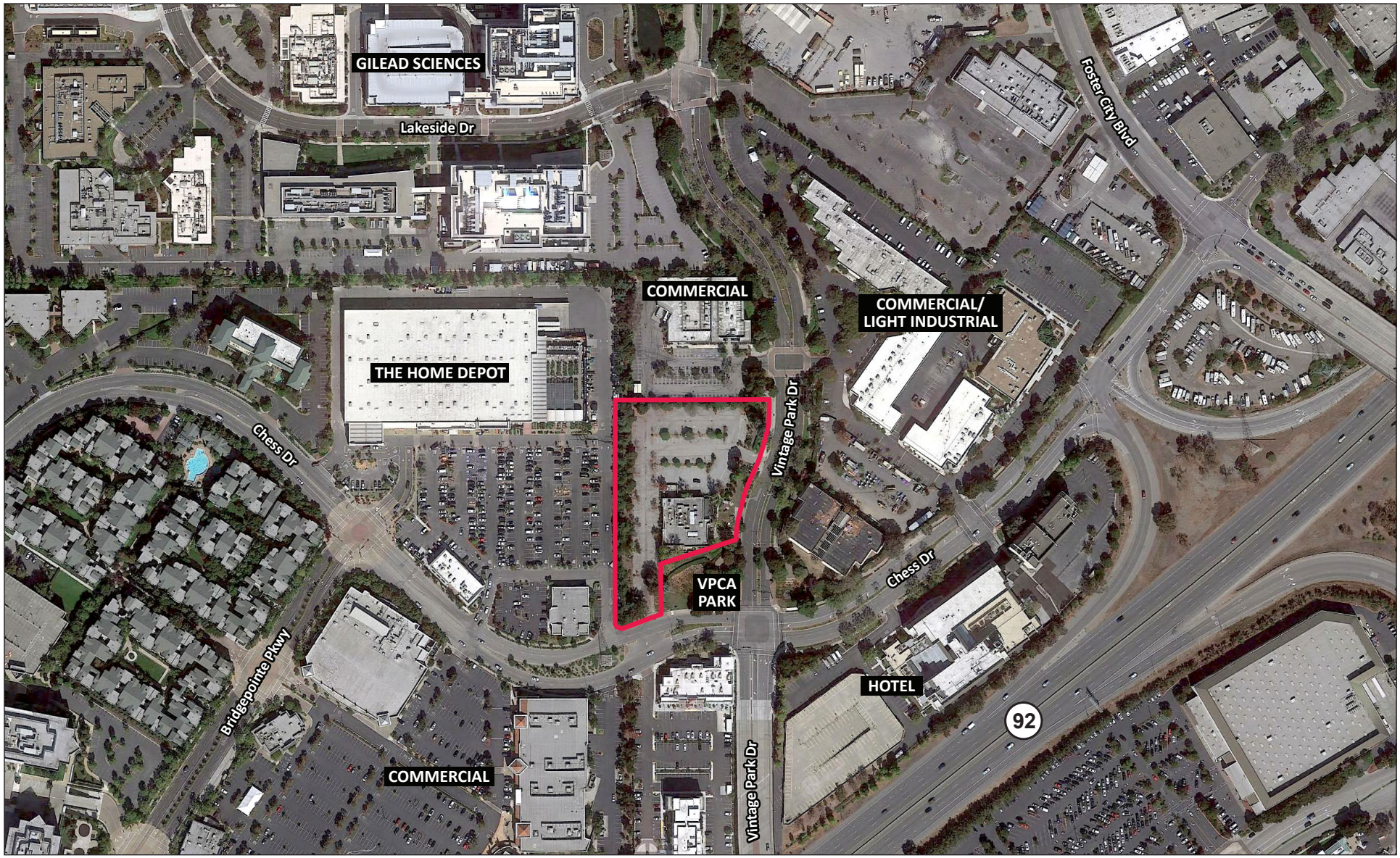
SOURCE: ESRI World Map (06/19).

I:\CFS2101\GIS\Maps\Figure 1-1_Project Location and Regional Vicinity Map.mxd (6/14/2021)

388 Vintage Park Drive Project Initial Study

Project Location and Regional Vicinity Map



LSA

FIGURE 1-2

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Project Site Boundary

388 Vintage Park Drive Project Initial Study

Aerial Photograph of the Project Site and Surrounding Land Uses

SOURCES: Google Earth, 9/26/2020; LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-2.ai (6/10/2021)

Existing site conditions are depicted in Figure 1-3. Figure 1-4 depicts an aerial view of the project site and photos of existing site conditions are depicted in Figure 1-5; viewpoint locations are shown in Figure 1-4.

Regulatory Setting

The project site is located within the Vintage Park Neighborhood, which is currently designated Research/Office Park in the City's General Plan.[2] This designation is intended for areas containing office, research and development, and manufacturing establishments whose operations are clean and quiet. Mixed-use projects that include some retail and residential uses in addition to office and research uses may, under certain conditions, be considered compatible with this designation.[3] The Vintage Park Design Guidelines Land Use Map[4] designates the site as "restaurant."

The project site is located within the Commercial Mix District/Planned Development Combining District (C-M/PD). The C-M zoning allows for mixed commercial uses such as retail. However, the C-M district is required to be used only in conjunction with the combining zone PD, which is designed to accommodate various types of development and allow flexibility of design that is in accordance with the objectives and spirit of the General Plan. The current zoning for the project site is established by the Vintage Park General Development Plan (GDP), which designates the project site as a restaurant site.

Proposed Project

This section provides a description of the proposed project as identified in the project sponsor's application materials submitted to the City, dated July 16, 2021.[5] The proposed project would result in the demolition of the existing restaurant building and construction of an approximately 120,164-square-foot, four-story (68-foot-tall, excluding a mechanical penthouse and associated equipment that would reach 80 feet) office building including a ground-level parking podium and surface parking totaling 180 vehicle parking spaces, as well as associated open space, circulation and loading, and infrastructure improvements.

Figure 1-6 depicts the overall proposed conceptual site plan for the proposed project. Figures 1-7 through 1-9 depict the proposed conceptual site plans for the ground level through fourth floors of the proposed building. The roof plan is shown in Figure 1-10. Figures 1-11 and 1-12 show proposed conceptual building elevations, and proposed conceptual sections are shown in Figure 1-13.

---

2 Foster City, City of. 2016. *Foster City General Plan*. February 1.

3 Foster City, City of. 2021. *Foster City Municipal Code* (as amended). Title 17. January 19.

4 Foster City, City of. 2021. *Vintage Park Design Guidelines.* January 22.

5 It should be noted that project plans, including total building square footage, parking count and other project elements, may be subject to refinement prior to City action on project entitlements. The analysis in this Initial Study is conservative and evaluates the maximum development potential for the proposed project.

Building Program

The proposed project would result in the redevelopment of the project site with a four-story "B occupancy"[6] research and development (R&D) office use that would include three levels of occupied space above a single level of ground floor parking. The proposed building would be located in the center of the project site as shown in Figure 1-6. The second and third floors of the proposed building would each be approximately 33,000 square feet in size, while the fourth floor would be approximately 27,000 square feet. A total of 95,931 square feet of R&D space is proposed, approximately 50 percent of which would be occupied by laboratory space and 50 percent would be occupied by office space, distributed evenly throughout each floor. The mechanical penthouse would occupy approximately 20,000 square feet on the rooftop. The penthouse would be screened in metal cladding and would only be accessible to facilities management and engineers.

It is anticipated that approximately 213 employees would be accommodated on the project site, with about 213 employees at the site during peak occupancy, with variations throughout the day due to the nature of R&D uses, which typically operate outside of traditional office hours.

Open Space and Landscaping

A total of approximately 28,000 square feet of open space would be provided across the entire project site. Open space would consist of approximately 22,000 square feet of ground level common open space and an approximately 6,000-square-foot terrace on the fourth level. Of the existing 55 trees on the project site, 53 would be removed. Approximately 53 new trees would be planted throughout the project site. Additionally, another 61 off-site trees would remain around the project site, including within the EMID strip, in the Vintage Park Community Association (VPCA) park, and along the Vintage Park Drive frontage. Landscaping and other plantings would be provided through the project site, including adjacent to Vintage Park Drive.

Access, Circulation and Parking

Pedestrian access to the proposed building would be provided by both Vintage Park Drive and Chess Drive, including new sidewalks connecting to Chess Drive and a landscaped area between the Vintage Park Drive right-of-way and the proposed building. Vehicular access to the project site would be provided by the existing driveways along Vintage Park Drive and Chess Drive.

The ground level of the proposed building would include a garage that would contain approximately 87 parking spaces and would be accessed from a driveway at the northwest corner of the proposed building. An additional 93 surface parking spaces would be provided along the northern and western boundaries of the project site, for a total of 180 parking spaces. A total of 20 bicycle parking spaces would be provided in a long-term storage room in the parking garage. A total of 14 motorcycle parking spaces would be provided throughout the project site. A loading dock that would be able to accommodate a WB-40 truck[7] would be provided at the northwest corner of the building. An additional loading zone for package drop off is proposed at the main entry.

---

6 The California Building Code (CBC) Business Group B occupancy includes the use of a building or structure for office and professional service-type transactions, including laboratories for testing and research.

7 A WB-40 truck is defined as a medium- to large-sized box truck or tractor trailer with a 40-inch wheelbase.

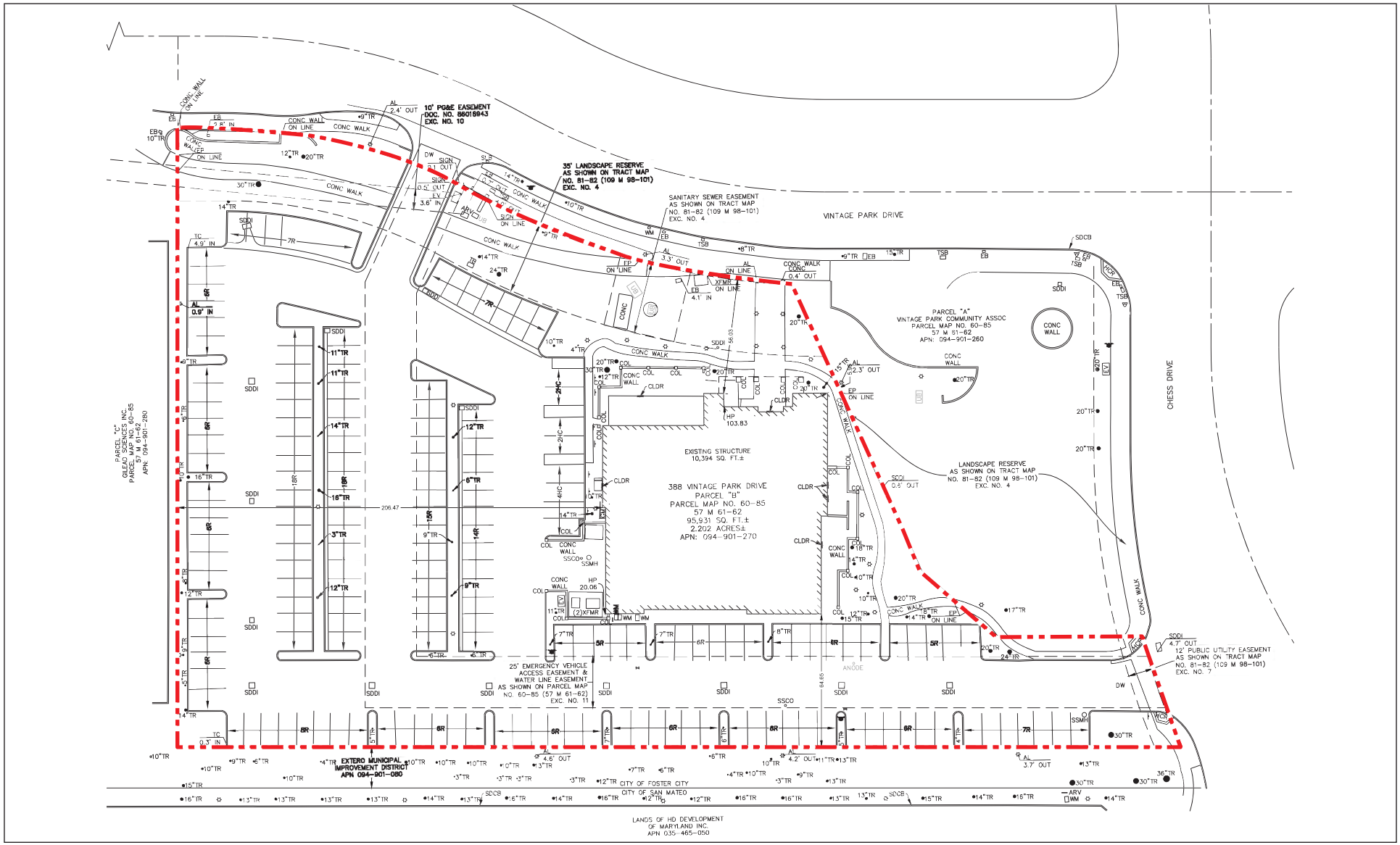

FIGURE 1-3

LSA

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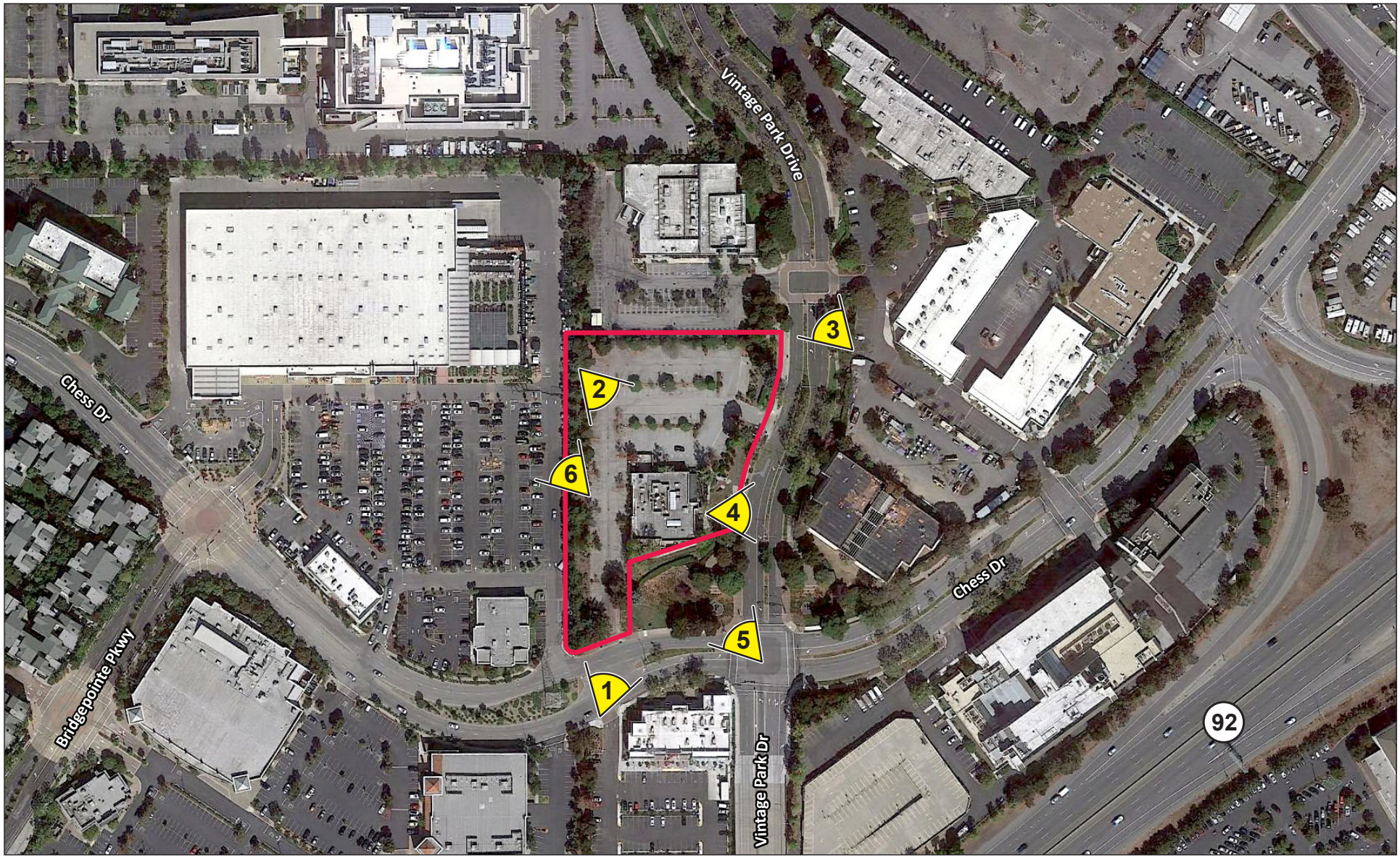
Project Site Boundary

388 Vintage Park Drive Project Initial Study
Existing Site Conditions

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-3.ai (6/10/2021)



LSA

FIGURE 1-4

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4 Photo Locations (Figures 1-5 and 1-14 through 1-15)

Project Site Boundary

388 Vintage Park Drive Project Initial Study

Photo Locations Map

SOURCES: Google Earth, 9/26/2020; LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-4.ai (6/21/2021)

Photo 1: View of the project site from Chess Drive, looking north

Photo 2: View from the northwest corner of the project site, looking southeast

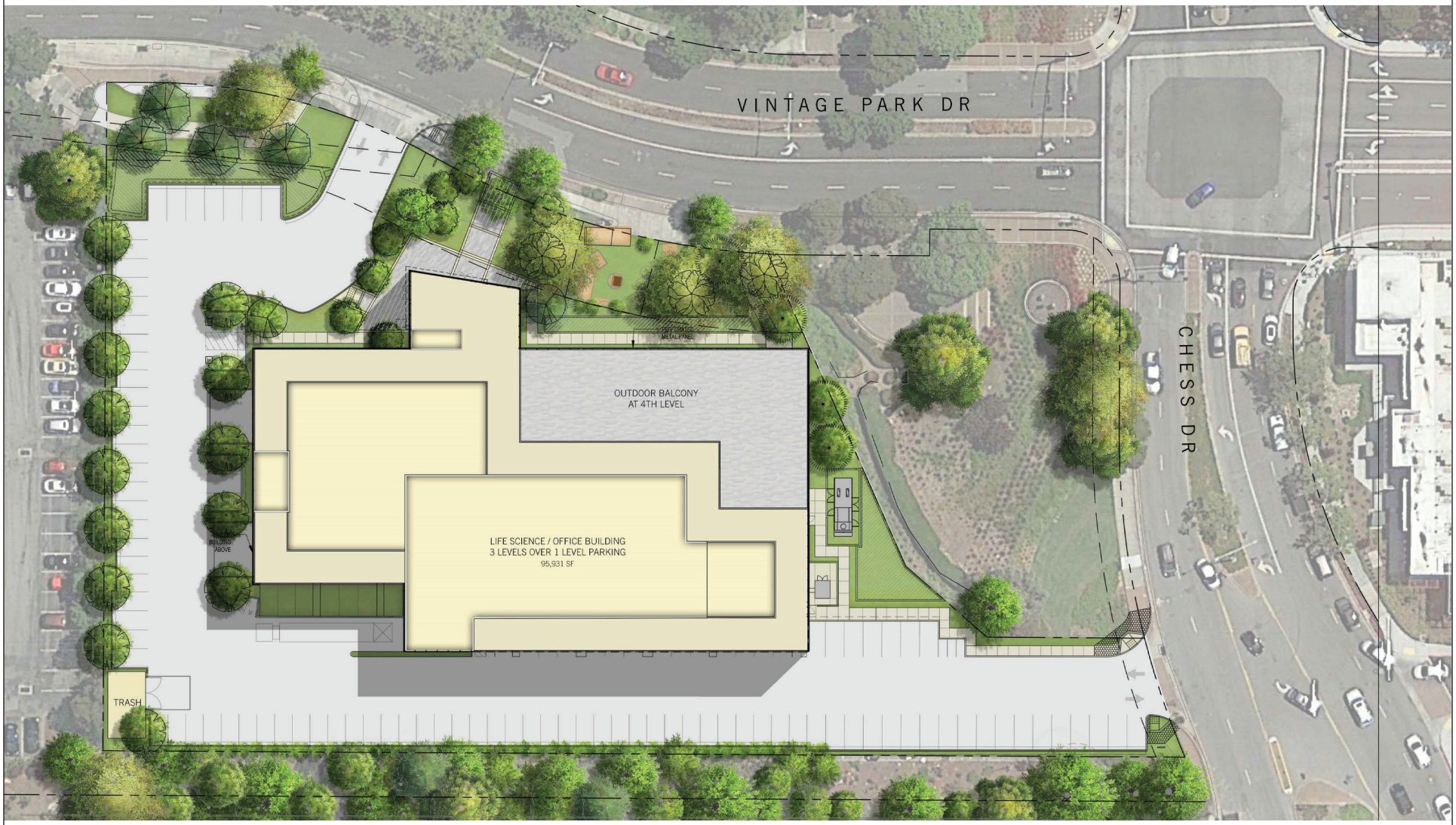
LSA

FIGURE 1-5

388 Vintage Park Drive Project Initial Study
Photos of Existing Site

SOURCE: LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-5.ai (6/21/2021)



LSA

FIGURE 1-6

Project Boundary

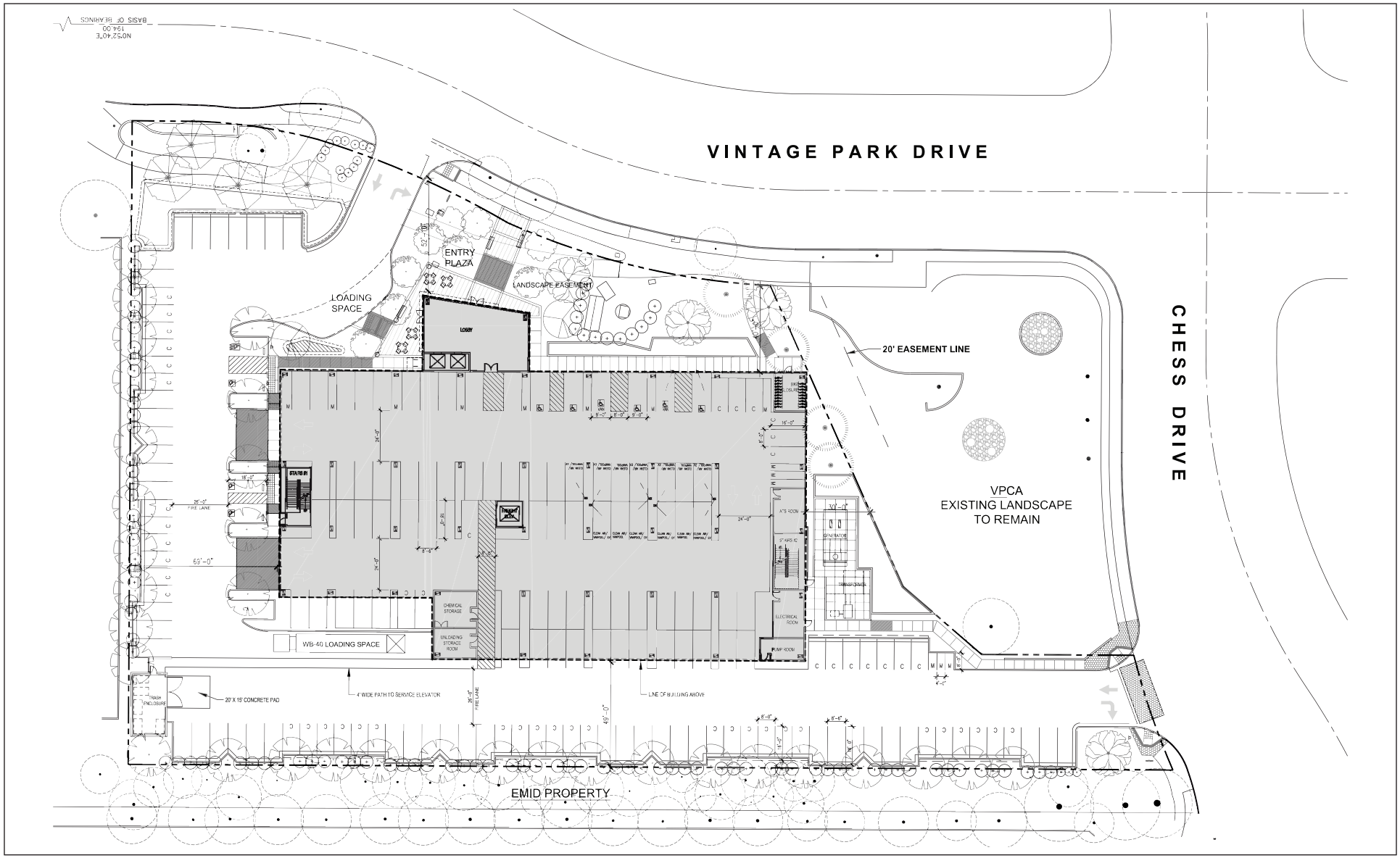
0 20 40
FEET

N

388 Vintage Park Drive Project Initial Study
Proposed Conceptual Site Plan

SOURCES: DES; HELIOS; STEELWAVE, April 18, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-6.ai (6/21/2021)



LSA

FIGURE 1-7

0 20 40
FEET

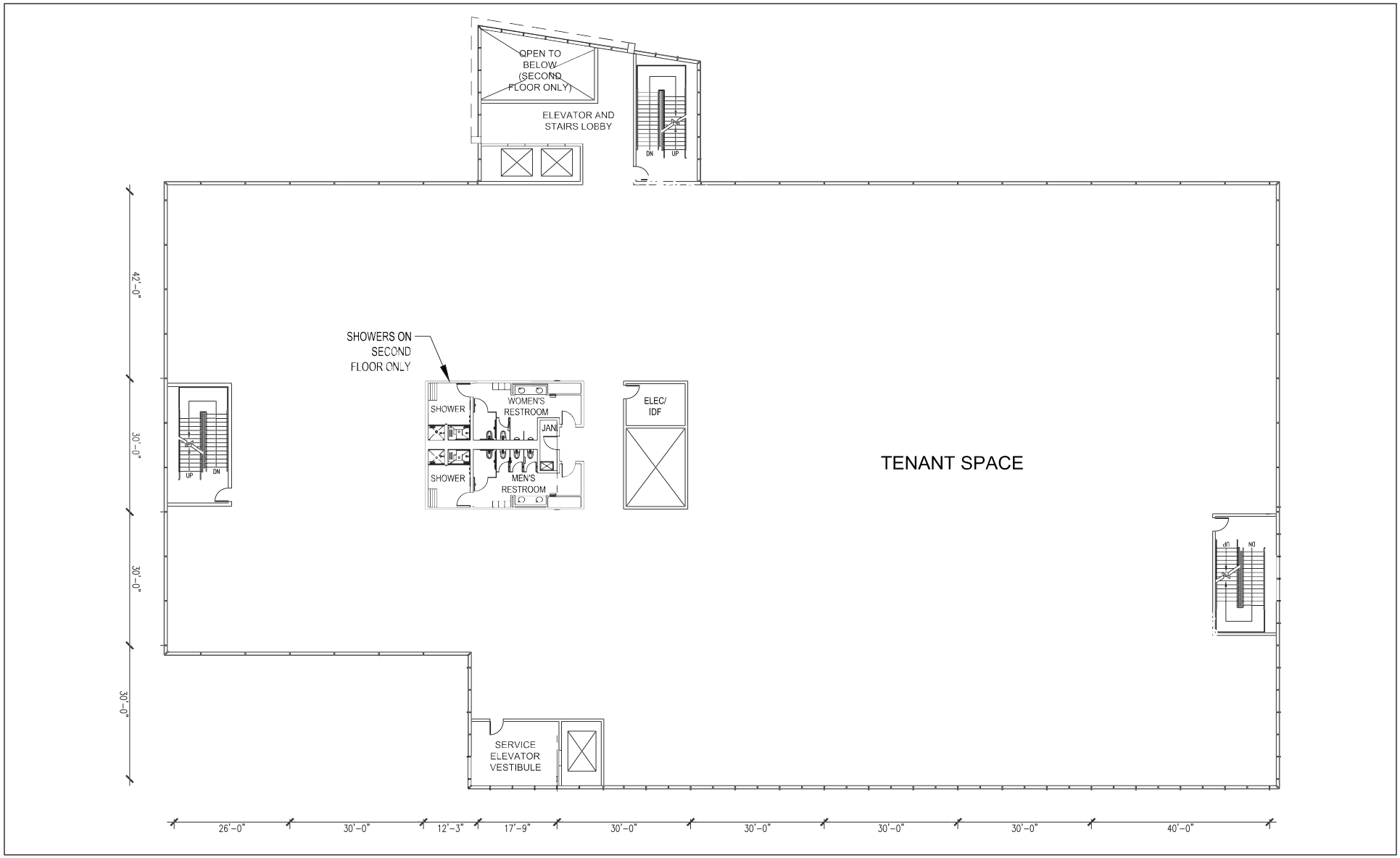
N

Project Boundary

388 Vintage Park Drive Project Initial Study
Conceptual Ground Level Floor Plan

SOURCES: DES; HELIOS; STEELWAVE, July 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-7.ai (7/19/2021)



LSA

FIGURE 1-8

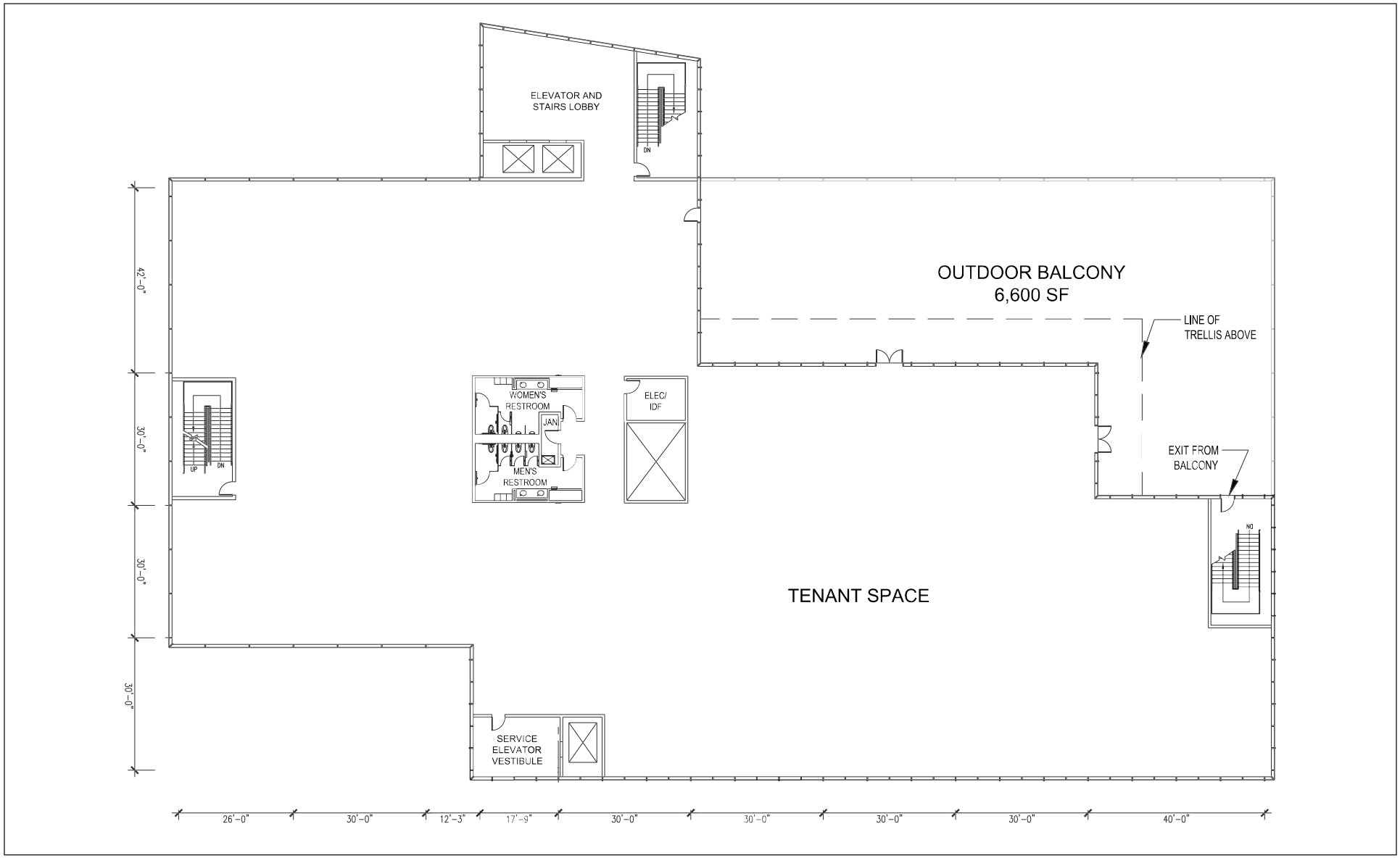
0 16 32
FEET

N

388 Vintage Park Drive Project Initial Study
Proposed Conceptual Second and Third Level Floor Plans

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-8.ai (6/21/2021)



LSA

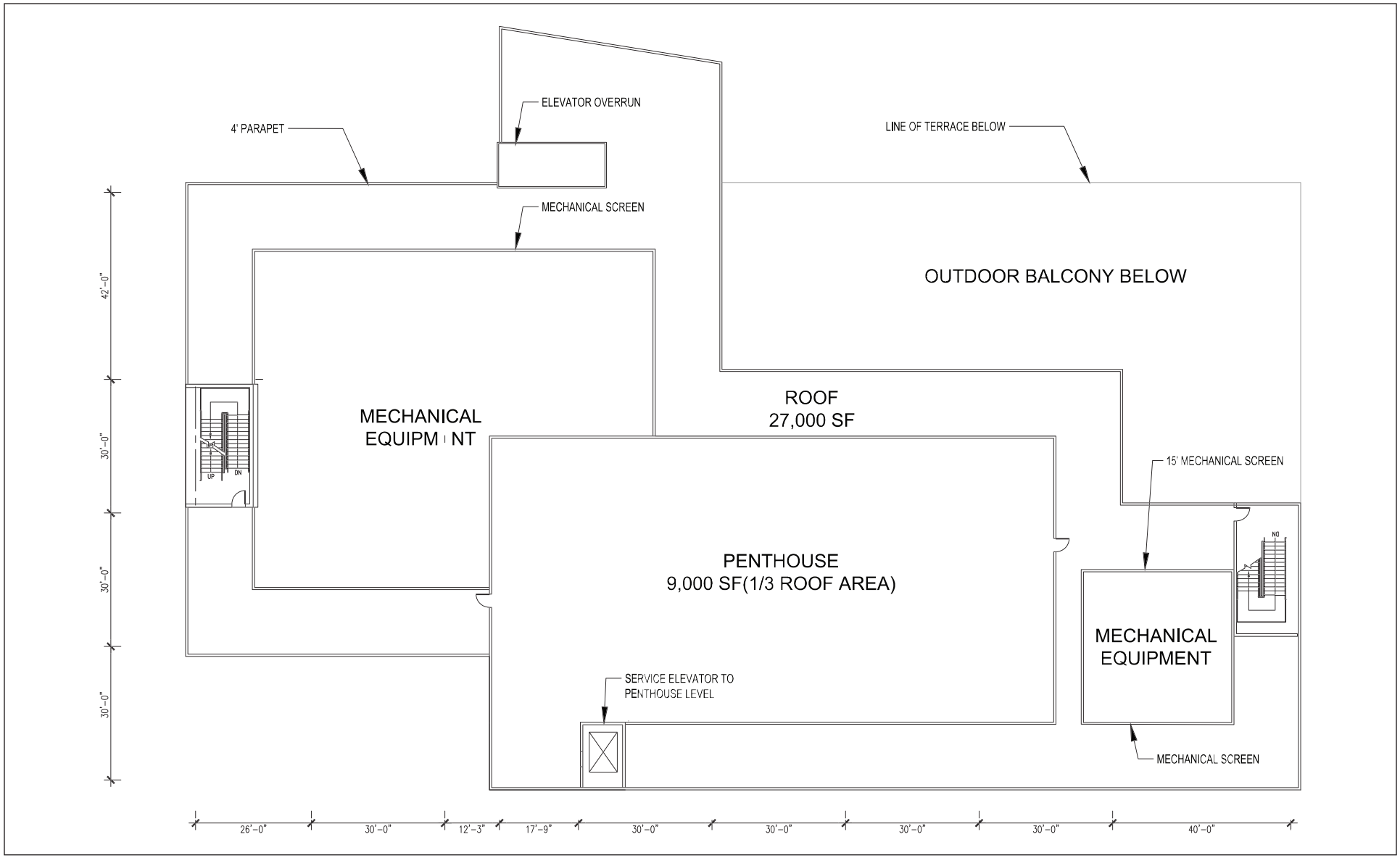
FIGURE 1-9

NOT TO SCALE

388 Vintage Park Drive Project Initial Study
Proposed Conceptual Fourth Level Floor Plan

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-9.ai (6/21/2021)



LSA

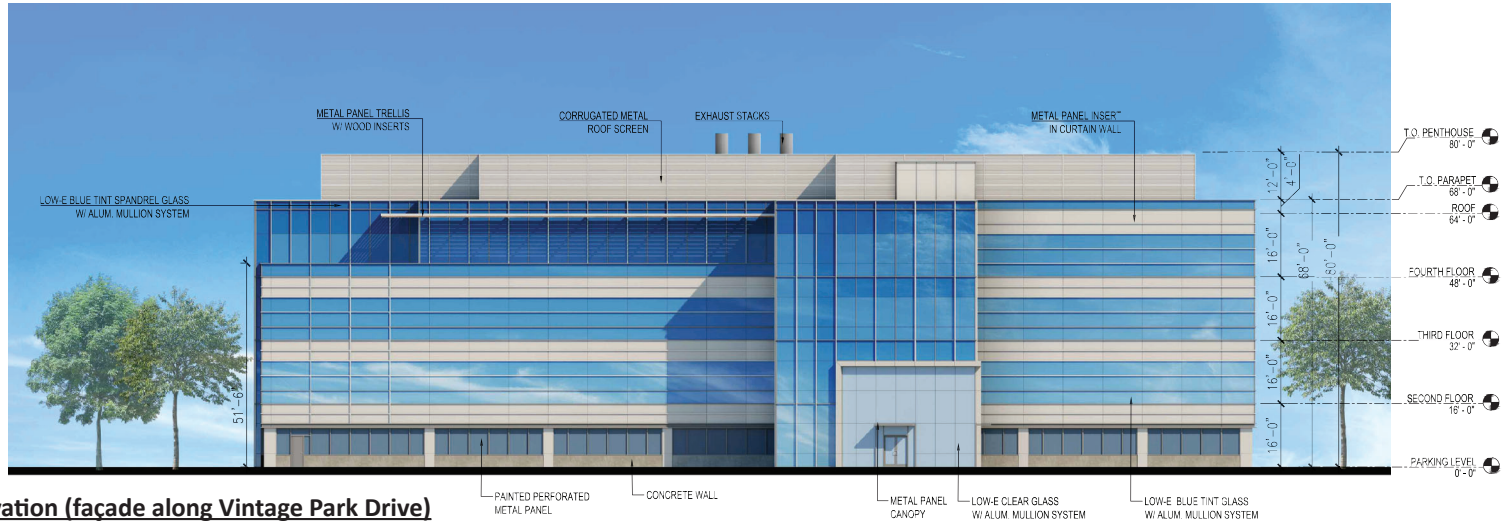
FIGURE 1-10

NOT TO SCALE

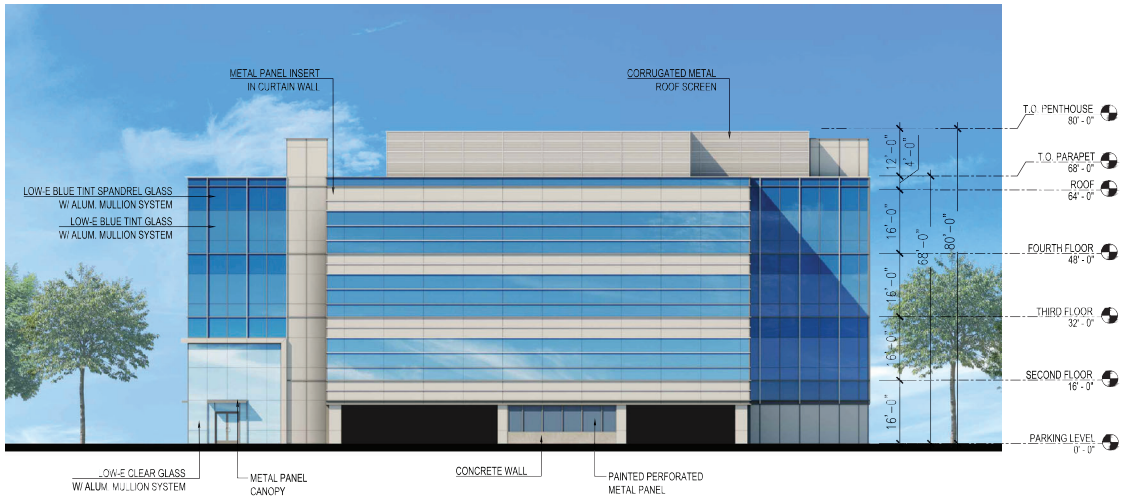
SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-10.ai (6/21/2021)

388 Vintage Park Drive Project Initial Study
Proposed Conceptual Roof Plan



East Elevation (façade along Vintage Park Drive)



North Elevation

LSA

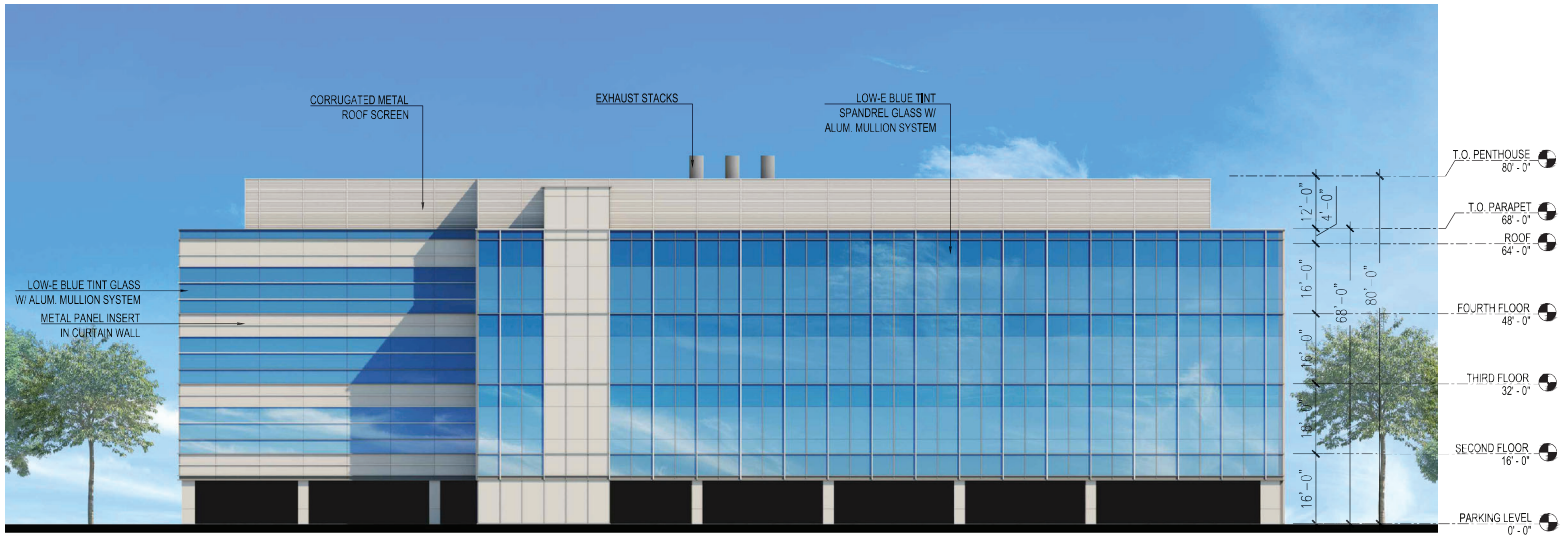
FIGURE 1-11

388 Vintage Park Drive Project Initial Study
Proposed Conceptual Building Elevations - East and North

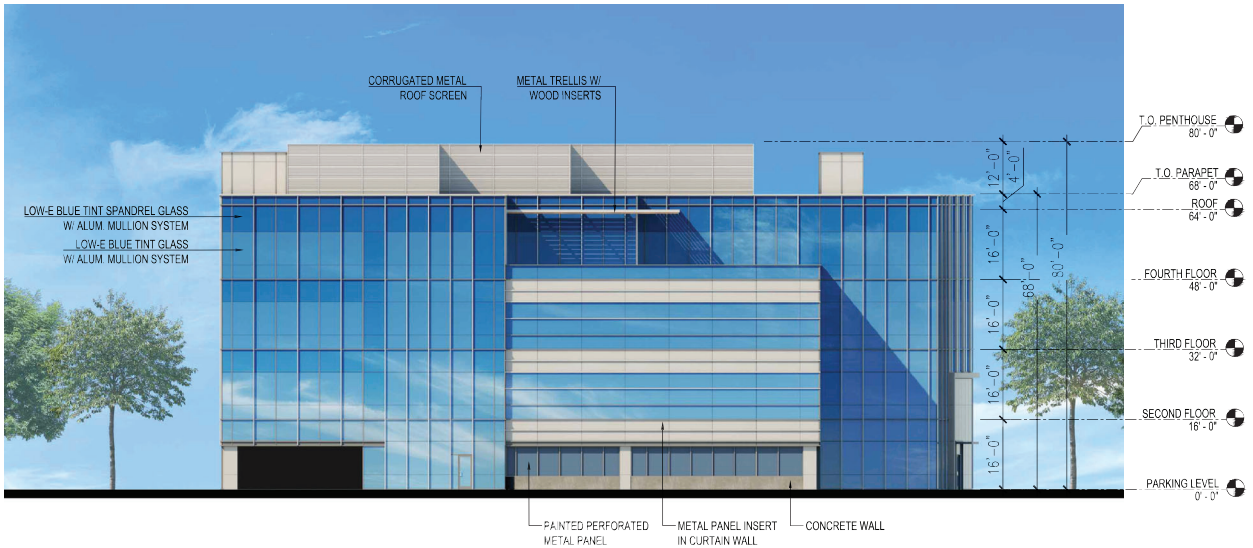
SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-11.ai (6/21/2021)

West Elevation



South Elevation



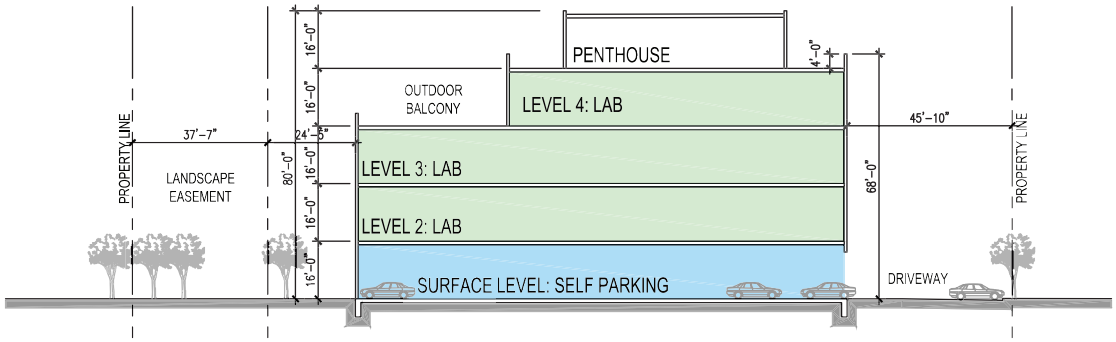
LSA

FIGURE 1-12

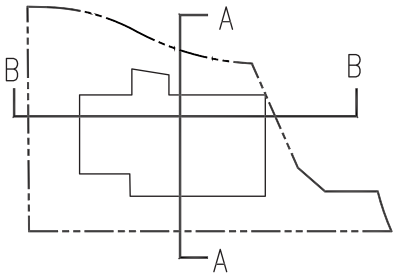
388 Vintage Park Drive Project Initial Study
Proposed Conceptual Building Elevations - South and West

SOURCES: DES; HELIOS; STEELWAVE, April 2021

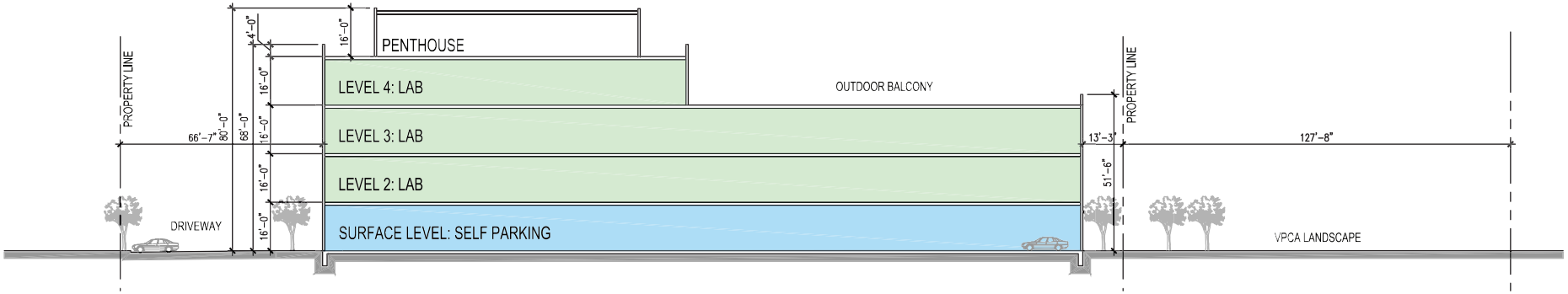
P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-12.ai (6/21/2021)



West to East Section - Section A



Key Plan



North to South Section - Section B

LSA

FIGURE 1-13

388 Vintage Park Drive Project Initial Study
Proposed Conceptual Building Sections

SOURCES: DES; HELIOS; STEELWAVE, April 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-13.ai (6/21/2021)

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Utilities, Infrastructure and Easements

The project site is located in an urban area with existing utilities and infrastructure. The proposed project would be required to install the following utility connections to the satisfaction of the applicable utility providers: water; wastewater; stormwater drainage; power; and telecommunications services. The proposed building would also include a pad and enclosure for a future tenant-supplied generator. The generator would be located south of the proposed building in a perforated metal panel enclosure approximately 14 feet in height.[8]

The existing project site includes approximately 76,196 square feet of impervious surfaces and approximately 19,735 square feet of pervious surfaces. The proposed project would result in a net increase in impervious surface coverage of approximately 3,052 square feet (4 percent increase) compared to existing conditions for a total of 79,248 square feet of impervious surface and 16,683 square feet of pervious surface.

The on-site stormwater would be collected, treated per C.3 treatment methods, and conveyed to the City's storm drain main within Vintage Park Drive. The proposed project would decrease the amount of landscaping and pervious area on-site as noted above; therefore, the amount of storm water run-off from the site is expected to increase.

The proposed project would include energy efficient components and design features to achieve Leadership in Energy and Environmental Design (LEED) Silver equivalence. Specifically, measures to achieve this standard could include exterior Low-E glazing to respond to solar exposure, low-flow indoor water fixtures, advanced water and energy metering, infrastructure for electric vehicle (EV) charging, and enhanced indoor air quality strategies including advanced ventilation.

The proposed building would be located generally within the same footprint as the existing building. The project sponsor is currently pursuing establishment of a new no build and maintenance easement with the VPCA.

Demolition, Grading and Construction

The proposed project would include demolition of the existing building and surface parking lots on the project site. Construction debris, such as old foundations, pavements, and structures, would be collected and hauled off-site for disposal. Approximately 180 tons of demolition waste would be generated by the proposed project and approximately 75 percent of those materials would be recycled.[9] Other than spoils, excavated soils would be balanced on the project site and, therefore, substantial import or export would not be required. The project sponsor is proposing to implement

[8] For the purposes of this analysis, this generator is assumed to be a 250 kilowatt diesel generator that would operate 52 hours per year (one hour per week) for testing and would be used for emergency backup only.

[9] Tubbs, Curtis, Project Construction Contractor. 2021. Personal communication with Peter Banzhaf, Project Sponsor. June 30.

displacement auger cast piles or vibrated-in H steel piles for foundation installation; pile driving is not proposed.[10]

If approved, construction of the proposed project is anticipated to begin in spring 2022. Overall, construction of the proposed project is anticipated to last approximately 17 months and is anticipated to be fully operational and occupied by late 2023.

9. Surrounding Land Uses and Setting:

The project site is located in the Vintage Park neighborhood in the northwest portion of the city at the municipal boundary between Foster City and San Mateo County. The Vintage Park neighborhood is generally bound by the San Francisco Bay to the north, Foster City Boulevard to the east, SR 92 to the south, and the municipal boundary of San Mateo to the west. The project site is generally surrounded by a mix of uses, consisting mostly of new construction, as depicted in Figure 1-2 and further described below. Figures 1-14 and 1-15 include photos of surrounding land uses; refer to Figure 1-4 for photo viewpoint locations.

- **North of the Project Site.** The project site is bordered to the north by a commercial building (Photo 3). Further north of the project site is the Gilead Sciences, Inc. (Gilead) campus, Vintage Park Drive, and light industrial and commercial uses. The Gilead campus consists of approximately 23 life sciences and R&D buildings, as well as associated parking and open space.

- **East of the Project Site.** The project site is bordered immediately to the east by Vintage Park Drive, which is a four-lane divided roadway in the vicinity of the project site. Further east of the project site are commercial and hotel uses (Photo 4), as well as the Foster City Boulevard on- and off-ramp for SR 92.

- **South of the Project Site.** The project site is bound immediately to the south by a small park owned by the VPCA (Photo 5). Further south is Chess Drive, across which are commercial and hotel uses and SR 92.

- **West of the Project Site.** The project site is bordered to the west by The Home Depot commercial warehouse building (Photo 6), past which are hotel and commercial uses. Bridgepoint Circle is further west, across which are residential, commercial, and institutional uses.

[10] Rockridge Geotechnical. 2021a. 388 Vintage Parkway Geotechnical Consultation regarding H-piles. June 30.

Photo 3: Photo of the commercial building north of the project site, as seen from Vintage Park Drive

Photo 4: Photo of the commercial building east of the project site, as seen from Vintage Park Drive

LSA

FIGURE 1-14

388 Vintage Park Drive Project Initial Study

Photos of Surrounding Land Uses

SOURCE: LSA, 2021

P:\CFS2101 388 Vintage Park\PRODUCTS\Graphics\Figure 1-14.ai (6/21/2021)

Photo 5: Photo of the VPCA park south of the project site, as seen from the intersection of Vintage Park Drive and Chess Drive

Photo 6: Photo of The Home Depot from the project site, looking west

LSA

FIGURE 1-15

388 Vintage Park Drive Project Initial Study
Photos of Surrounding Land Uses

SOURCE: LSA, 2021

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

A number of permits and approvals would be required to allow development of the proposed project. As lead agency for consideration of the proposed project, the City of Foster City would be responsible for the majority of the approvals required for project development. Other agencies also may have some authority related to the proposed project and its approvals. A list of required permits and approvals, including the discretionary actions described above, which may be required by the City and other agencies, is provided in Table A.

Table A: Anticipated Permits and Approvals for Project Implementation

Lead Agency	Permit/Approval
City of Foster City	● Environmental Review ● General Development Plan Amendment/Rezoning ● Specific Development Plan/Use Permit ● Use Permit Modification (Amendments to Vintage Park Design Guidelines) ● Encroachment Permit ● Transportation Permit
Responsible Agencies	
Bay Area Air Quality Management District (BAAQMD)	● Permits for on-site generators, boilers, and other utility equipment
California Department of Transportation (Caltrans)	● Review of traffic circulation effects and consultation on potential traffic improvements that may affect State highway facilities, ramps, and intersections
California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program	● Compliance with National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Municipal Regional Permit
City/County Association of Governments	● Review of potential effects on Routes of Regional Significance
San Mateo County Environmental Health Division	● Review of on-site generators
San Mateo County Transportation Authority	● Review of potential effect on public transit
San Mateo Consolidated Fire Department	● Commercial Site Plan review ● Emergency Vehicle Access approval
San Mateo Union High School District	● School District Certification of School Impact Fees
San Mateo-Foster City School District	● School District Certification of School Impact Fees
City of San Mateo	● Encroachment Permit for potential traffic control on Chess Drive ● Industrial Waste Discharge Permit
Recology	● Approval of on-site trash/recyclables access

Source: LSA (2021).

In addition, development of the proposed project, if approved, would be subject to the City of Foster City's standard Conditions of Approval (COA) for all Major Use Permits. Applicable COAs are identified in Chapter 3.0 of this Initial Study.

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

The Notice of Preparation (NOP) of an EIR and this Initial Study will be sent to tribal representatives that have requested notification of potential projects in this location. The consultation process and its conclusion will be further discussed in the EIR.

2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in Chapter 3.0. These topics will be further evaluated in the EIR.

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

2.1 DETERMINATION

On the basis of this initial evaluation:

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

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

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

☐ I find that the proposed project MAY have a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Sofia Mangalam
Sofia Mangalam (Jul 20, 2021 09:29 PDT)

Signature

July 21, 2021

Date

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3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

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

a. through d. ***(Potentially Significant Impact)***

Development of the proposed project would alter the existing visual setting on and around the project site with demolition of the existing single-story structure and construction of a new four-story office building, as well as removal of existing vegetation. The proposed building would be visible from public vantage points primarily available from surrounding roadways and the immediately adjacent VPCA park. The proposed building could also result in an increase in shade and shadow in the vicinity of the project site, including potentially on the small park. Therefore, the criteria identified above for topics 3.1.a through 3.1.d will be evaluated in the EIR.

3.2 AGRICULTURE AND FORESTRY RESOURCES

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

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

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? ***(No Impact)***

The project site is currently developed with a vacant commercial building and is surrounded by urban uses. There are no agricultural resources located on or near the project site. The project site is classified as "Urban and Built-Up Land" by the State Department of Conservation.[11] Therefore, the proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and would have no impact.

[11] California Department of Conservation. 2016. Division of Land Use Resource Protection. California Important Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff (accessed June 2021).

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? ***(No Impact)***

The project site is designated as Research/Office Park on the City's General Plan Land Use Map and is within the C-M/PD zoning district. The project site is not located within a locally-designated agricultural preserve, and therefore is not eligible for enrollment under a Williamson Act contract[12] and would have no impact.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? ***(No Impact)***

The project site is currently developed with a vacant commercial building. The project site is surrounded by commercial, light industrial, and recreation uses, and is within the C-M/PD zoning district. The proposed project would not conflict with the existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, the proposed project would have no impact.

d. Would the project result in the loss of forest land or conversion of forestland to non-forest use? ***(No Impact)***

Refer to Section 3.2.c, above. The proposed project would not result in the loss of forest land or conversion of forest land to a non-forest use. While there are a number of existing trees on-site, and 53 existing trees would be removed from the project site, the highly urbanized project site does not constitute forest land. Therefore, the proposed project would have no impact.

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? ***(No Impact)***

Refer to Sections 3.2.a and 3.2.c, above. The proposed project would not involve any other changes to the existing environment which, due to their location or nature, could result in conversion of Farmland to a non-agricultural use, or conversion of forest land to a non-forest use. Therefore, the proposed project would have no impact.

[12] California Department of Conservation. 2019. Williamson Act Contracts. Website: www.conservation.ca.gov/dlrp/wa/Pages/contracts.aspx (accessed June 2021).

3.3 AIR QUALITY

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

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

a. through d. ***(Potentially Significant Impact)***

Development of the proposed project could increase pollutant concentrations within the City through increased vehicle trips and construction emissions. This increase could contribute to existing air pollution in the San Francisco Bay Area Air Basin and has the potential to exceed regional air emission thresholds established by the Bay Area Air Quality Management District (BAAQMD). Construction activities associated with project development, including building demolition, grading, and ground disturbance, could increase concentrations of particulate matter and could expose sensitive receptors to toxic air contaminants. In addition, the proposed project could result in the emission of objectionable odors as a result of construction-related activities and operation. Therefore, the criteria identified above for topics 3.3.a through 3.3.d will be evaluated in the EIR.

3.4 BIOLOGICAL RESOURCES

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

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

A reconnaissance-level biological resources survey of the project site was conducted by a qualified LSA biologist on June 9, 2021. The project site contains a vacant commercial building, surface parking lots, and landscaping with ornamental plants and ruderal (weedy) vegetation. Landscaping consists of primarily non-native trees and shrubs, including red iron bark eucalyptus (*Eucalyptus sideroxylon*), silver dollar gum (*E. polyanthemos*), Blackwood acacia (*Acacia melanoxylon*), Bailey acacia (*A. baileyana*), Lombardy poplar (*Populus nigra* 'Italica'), Brazilian pepper (*Schinus terebinthifolius*), Aleppo pine (*Pinus halepensis*), Monterey pine (*P. radiata*), Canary Island pine (*P. canariensis*), sweetgum (*Liquidambar styraciflua*), cajeput (*Melaleuca quinquenervia*), Callery pear (*Pyrus calleryana*), London plane (*Platanus* x *hispanica*), purple-leaf plum (*Prunus cerasifera* 'Atropurpurea'), crape myrtle (*Lagerstroemia indica*), oleander (*Nerium oleander*), and agapanthus (*Agapanthus* spp.). One native coast live oak (*Quercus agrifolia*) is growing near the northeastern

boundary of the site. Ruderal vegetation is present in the understory of the landscaped plants and include non-native plant species, such as panic veldtgrass (*Ehrharta erecta*), soft chess (*Bromus hordeaceus*), and Italian rye grass (*Festuca perennis*).

Wildlife species that likely occur at the project site include urban-adapted species that occur within parking lots and landscaping. Wildlife observed or detected during the field survey consist of American crow (*Corvus brachyrhynchos*), Eurasian collared-dove (*Streptopelia decaocto*), American robin (*Turdus migratorius*), Bewick's wren (*Thryomanes bewickii*), black phoebe (*Sayornis nigricans*), Nuttall's woodpecker (*Dryobates nuttallii*), house finch (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), dark-eyed junco (*Junco hyemalis*), and eastern gray squirrel (*Sciurus carolinensis*) nests. Old squirrel nests were observed in some of the trees, but these nests are not protected. Except for the non-native Eurasian collared-dove, active nests of these or native birds are protected by the Migratory Bird Treaty Act and/or California Fish and Game Code. None of the observed wildlife species are considered special-status under CEQA.

A review of the California Department of Fish and Wildlife's California Natural Diversity Database[13] resulted in several special-status species that are known to occur within 5 miles of the project site. For the purposes of this Initial Study, special-status species are defined as follows:

1. Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA);

2. Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA);

3. Plant species that are on the California Rare Plant Rank Lists 1A, 1B, and 2;

4. Animal species that are designated as Species of Special Concern or Fully Protected by CDFW; or

5. Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA guidelines.

The project site does not provide suitable habitat for any special-status plant species due to prior disturbance at the project site and the resulting lack of native plant communities, such as wetlands, salt marsh, woodlands, and grasslands.

Out of the numerous special-status wildlife species that have been recorded within 5 miles of the site, two species, the white-tailed kite (*Elanus leucurus*) and pallid bat (*Antrozous pallidus*), have a low potential to occur. The remaining special-status wildlife species that are known to occur within 5 miles of the site would likely not occur due to the lack of suitable habitat, such as salt marsh, wetlands, streams, and grasslands. The white-tailed kite is a California Fully Protected species that could nest in the trees on the site. Although unlikely to nest due to the lack of foraging habitat (i.e., grasslands) at or near the project site, this species is known to nest in urban areas and residential

[13] California Department of Fish and Wildlife. 2021. California Natural Diversity Database. June 8.

neighborhoods[14] and could nest in the trees on or adjacent to the project site. Therefore, the proposed project could impact the special-status white-tailed kite and other nesting birds protected by the Migratory Bird Treaty Act and/or California Fish and Game Code, if present during construction of the project. Implementation of Mitigation Measure BIO-1 would reduce potential impacts to the white-tailed kite and protected nesting birds to a less-than-significant level.

Mitigation Measure BIO-1: If possible, the project sponsor shall avoid construction activities during the bird nesting season (February 1 through August 31). If construction activities are scheduled during the nesting season, a qualified biologist shall conduct a pre-construction survey of all suitable nesting habitat (i.e., trees, shrubs, structures) within 250 feet of the project site (where accessible). The pre-construction survey shall be conducted no more than 14 days prior to the start of work. If the survey indicates the presence of nesting birds, protective buffer zones shall be established around the nests as follows: for raptor nests, the size of the buffer zone shall be a 250-foot radius centered on the nest; for other birds, the size of the buffer zone shall be a 50- to 100-foot radius centered on the nest. In some cases, these buffers may be increased or decreased depending on the bird species and the level of disturbance that will occur near the nest.

The pallid bat is a California Species of Special Concern that could roost in the trees on the site. No large cavities or hollows were observed in any of the trees during the reconnaissance-level survey, but these and other bat species could roost in the on-site trees. Although buildings can provide suitable roosting habitat for bats, the on-site vacant building appears to be in good condition and no visible openings, such as broken windows or openings within the eaves or roof of the building, were observed during the field survey. However, the proposed project could impact the special-status pallid bat and other roosting bats protected by CDFW, if they are present during construction, particularly during tree removal. Implementation of Mitigation Measure BIO-2 would reduce potential impacts to the pallid bat and other roosting bats to a less-than-significant level.

Mitigation Measure BIO-2: A qualified biologist shall conduct a pre-construction survey for roosting bats at all suitable bat roosting habitat (i.e., trees, the unoccupied building) within the project area within 14 days prior to the beginning of project-related activities. If active bat roosts are discovered or if evidence of recent prior occupation is established, a buffer shall be established around the roost site until the roost site is no longer active. Before any construction activities begin in the vicinity of the identified bat roosts on the project site, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the bats and their habitat, the specific measures that are being implemented to conserve the bat roosts for the current project, and

[14] LSA personal observation.

the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session. If an active bat roost is identified and would be impacted by the project, CDFW shall be contacted to determine the best methodology for removing the roost and to determine appropriate mitigation (if needed), which may include the construction of a new bat roost within the project area.

Mitigation Measures BIO-1 and BIO-2 are standard construction-period measures that are applicable to all construction projects that have the potential to impact nesting bird and bat species. These measures will be incorporated into the project's conditions of approval and will be identified and incorporated into the EIR and Mitigation Monitoring and Reporting Program (MMRP) that will be prepared.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? ***(No Impact)***

The project site is occupied by a vacant building, surface parking lots, landscaping with ornamental plants, and ruderal vegetation and does not contain any riparian habitat or other sensitive natural communities. No natural plant communities are present at the project site. The adjacent park does not have any riparian habitat or other sensitive natural communities. Therefore, there would be no impact.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ***(No Impact)***

The project site is occupied by a vacant building, surface parking lots, landscaping with ornamental plants, and ruderal vegetation and does not contain any State or federally protected wetlands. No ditches, drainage channels, or wetlands are present. Therefore, the proposed project would not result in the direct removal, filling, or hydrological interruption of any wetlands, and there would be no impact.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ***(Less Than Significant with Mitigation Incorporated)***

The project site is located in an urban area surrounded by development and does not provide a wildlife movement corridor, such as a stream channel or riparian corridor. Urban-adapted wildlife, such as raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), eastern gray squirrel, and birds, that may move through or along the edges of the project site would be able to continue to move through or around the site.

No native wildlife nursery sites, such as heron rookeries, are present. Nesting birds and roosting bats could occur at the project site; however, implementation of Mitigation Measures BIO-1 and BIO-2 would reduce potential impacts to nesting birds and roosting bats to a less-than-significant level.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***(No Impact)***

Of the existing 55 trees on the project site, 53 would be removed. Approximately 50 new trees would be planted throughout the project site. The Vintage Park Design Guidelines includes plant list with appropriate plantings for the Vintage Park neighborhood.[15] Development projects that require a use permit are required to comply with the following COA for planting of new trees.

> **COA 8.12:** At initial planting, all trees shall be a minimum of 15 gallons or larger and shall not be planted until they are inspected for size by the City. At least fifteen percent (15%) of the total number of trees approved as a part of the Landscape Plan shall be 24 inch or larger specimen trees to be planted along public rights-of-way or other locations as determined in the field by the Community Development Director. As and when trees are replaced they will be replaced by trees of the same species which shall be a minimum of 15 gallons or larger and shall not be planted until they are inspected for size by the City. Only specimen size trees shall replace specimen size trees.

Inspection of trees to be planted by the City would ensure the 53 trees that would be removed would be replaced by trees a minimum of 15 gallons in size. Therefore, the proposed project would not conflict with any policies or ordinances protecting biological resources, and there would be no impact.

Trees that would be preserved would be protected according to the tree preservation guidelines stated within the project arborist report.[16] These guidelines would be incorporated into the proposed project's construction documents and consist of the following:

Design Recommendations

1. All plans affecting trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, demolition plans, grading and utility plans, landscape and irrigation plans.

2. For trees identified for preservation, designate a Tree Protection Zone (TPZ) in which no construction, grading and underground services including utilities, sub-drains, water or sewer will be located. The TPZ for all trees identified for preservation shall be defined at the limit of the dripline in all directions.

[15] Foster City, City of. 2021. *Vintage Park Design Guidelines.* January 22.

[16] HortScience/Bartlett Consulting. 2021. Draft Preliminary Arborist Report, 388 Vintage Park Dr., Foster City, CA. Prepared for Steelwave, San Francisco, CA. March.

3. Tree Preservation Guidelines, prepared by the Consulting Arborist, shall be included on all relevant plans.

4. No grading, excavation, construction or storage of materials shall occur within that zone.

5. No underground services including utilities, sub-drains, water or sewer shall be placed in the TPZ.

6. Irrigation systems shall be designed so that no trenching will occur within the Tree Protection Zone.

7. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees shall be designed to withstand differential displacement.

8. Maintain the existing irrigation system. If the existing irrigation system is not functional, install a temporary system (using soaker hoses or polyvinyl chloride (PVC) laid on the ground and covered with mulch) as soon as possible to supply the trees with water and help them recover and prepare them for impacts associated with the demolition and construction process.

Pre-Construction Treatments and Recommendations

1. The demolition contractor shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.

2. Where possible, cap and abandon all existing underground utilities within the TPZ in place. Removal of utility boxes by hand is acceptable but no trenching shall be performed within the TPZ in an effort to remove utilities, irrigation lines, etc.

3. Fence all trees to be retained to completely enclose the TPZ prior to demolition, grubbing or grading. Fences shall be 6-foot chain link or equivalent as approved by the Consulting Arborist. Fences shall remain until all grading, construction and landscaping is completed. Place weather-proof signs, 2 feet by 2 feet, on the fencing that read “TREE PROTECTION ZONE Keep Out” (e.g., one sign for each of the four compass points).

4. To protect trunks from incidental damage during demolition, wrap the trunks of the street trees adjacent to the construction entrance to a height of 8 feet with straw wattle and orange snow fencing to provide a visual cue and protection from incidental contact.

5. Prune trees to be preserved to clean the crown of dead branches 2 inches and larger in diameter and raise canopies as needed for construction activities. All pruning shall be completed by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be completed by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300). The Consulting Arborist shall provide pruning specifications prior to site demolition. Branches

extending into the work area that can remain following demolition shall be tied back and protected from damage.

6. Apply and maintain 4 to 6 inches of wood chip mulch within the TPZ.

Recommendations for Tree Protection During Construction

1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved shall be required to meet with the Consulting Arborist at the site to review all work procedures, access routes, storage areas and tree protection measures.

2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.

3. Any grading, construction, demolition or other work that is expected to encounter tree roots shall be monitored by the Consulting Arborist.

4. Tree protection fences shall remain until all site work has been completed. Fences shall not be relocated or removed without permission of the Consulting Arborist.

5. Construction trailers, traffic, and storage areas shall remain outside fenced areas at all times.

6. Prior to grading, pad preparation, excavation for foundations/footings/walls, trenching, trees may require root pruning outside the TPZ by cutting all roots cleanly to the depth of the excavation. Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, with a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment. The Consulting Arborist shall identify where root pruning is required and monitor all root pruning activities.

7. If damage should occur to any tree during construction, the tree damage shall be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.

8. No excess soil, chemicals, debris, equipment, or other materials shall be dumped or stored within the TPZ.

9. Any additional tree pruning needed for clearance during construction shall be performed by a Certified Arborist and not by construction personnel.

Maintenance of Impacted Trees

Tree health and structural stability shall be monitored annually and the trees shall receive occasional pruning, fertilization, mulch, pest management, replanting and irrigation as needed.

Implementation of the above measures would ensure that trees to be retained on and in the immediate vicinity of the site would be protected during construction activities.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? ***(No Impact)***

The project site is not located within the boundaries of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the proposed project would not conflict with any such plan and there would be no impact.

3.5 CULTURAL RESOURCES

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

*a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? **(Less-Than-Significant Impact)***

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources [CRHR]), it generally must be 50 years or older. Under CEQA, historical resources can include pre-contact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts. The existing building on the project site was built in the 1990s and has not been identified as a historic resource by the City.

To identify potential historical resources on or in the vicinity of the project site a records search was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University in Rohnert Park, and appropriate background literature was reviewed. The results of the records search and literature review are summarized below.

On July 7, 2021, Jessika Akmenkalns, Researcher at the NWIC, conducted the CHRIS record search for the project site and a 0.25-mile radius of the project site. The record search results (NWIC File No. 20-2542) indicate that one previous cultural resources study has included the entire project site (a survey) and an additional seven previous cultural resources studies have included a portion of a 0.25-mile radius. The seven studies including a portion of the search radius consisted of six archaeological surveys and one archaeological monitoring project. As a result of previous cultural resources studies, no cultural resources have been recorded within the project site or a 0.25-mile radius.

A review of available historic-period maps indicate that the project site was historically surrounded by meandering water sources, which would have been utilized by pre-contact Native American occupants of the area. However, the Geotechnical Report[17] prepared for the project states that the project site was located on the Bayward side of the historic shoreline and was overlain with fill sediments, and that these fill materials extend approximately 4 to 5.5 feet below the existing surface. Project-related excavation would extend no deeper than 18 inches for elevator pits and

[17] Rockridge Geotechnical. 2021b. *Geotechnical Investigation and Ground Motion Analysis Report, Proposed Life Science Building, 388 Vintage Park Drive, Foster City, California*. April 13.

auger-cast piles would be installed to a depth of approximately 125 feet. Given the presence of fill material in all excavation areas (with the exception of the auger-cast piles, which are a type of localized disturbance providing limited potential to identify cultural resources), the likelihood of encountering intact historical archaeological deposits during project construction activities is low.

Although no archaeological deposits are recorded at the project site, pre-contact archaeological deposits have been unearthed in San Mateo County during construction activities. Should project excavation unearth intact archaeological deposits, a substantial adverse change to a historical resource would occur due to the partial or complete destruction of the resource. This destruction would undermine the integrity of the resource, such that it would no longer be eligible for listing in the California Register of Historical Resources. As such, project ground-disturbing activities could have a substantial adverse change on buried archaeological deposits that qualify as historical resources, as defined in CEQA Guidelines Section 15064.5, and could materially impair pre-contact archaeological deposits. Development projects that require a use permit are required to comply with the following COA.

> **COA 9.11:** If deposits of prehistoric or historic archaeological materials are encountered during project activities, all work within 25 feet of the discovery shall be redirected and the Community Development Director immediately notified. A qualified archaeologist shall be contacted to assess the find, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, basalt, or quartzite toolmaking debris; bone tools; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash and charcoal, shellfish remains, faunal bones, and cultural materials); and stone-milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains. Historical materials can include wood, stone, concrete, or adobe footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, metal and other refuse.
>
> Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results of the analysis, and provide recommendations for the treatment of the archaeological deposits discovered. The report shall be submitted to the project sponsor, the Foster City Community Development Department and the Northwest Information Center. Project personnel shall not collect or move any archaeological materials or human remains. Adverse effects to such deposits shall be avoided by project activities. If avoidance is not feasible (as determined by the City, in conjunction with the qualified archaeologist), the archaeological deposits shall be evaluated for their eligibility for listing in the California Register. If the deposits are not eligible, avoidance is not necessary. If the deposits are eligible, avoidance of project impacts on the deposit shall be the preferred mitigation. If adverse effects on the deposits cannot be avoided, such effects must be mitigated. Mitigation can include, but is not necessarily limited to: excavation of the deposit in accordance with a data recovery plan (see CEQA Guidelines Section 15126.4(b)(3)(C)) and standard archaeological field methods and procedures; laboratory and technical analyses of recovered archaeological materials; production of a report detailing the methods, findings, and significance of the archaeological site and associated materials; curation of archaeological materials at an appropriate facility for future

research and/or display; preparation of a brochure for public distribution that discusses the significance of the archaeological deposit; an interpretive display of recovered archaeological material sat a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials. The City shall ensure that any mitigation involving excavation of the deposit is implemented prior to the resumption of actions that could adversely affect the deposit.

Work stoppage and review by a qualified archaeologist in the event of an archaeological discovery would ensure that: (1) if archaeological cultural resources are identified during excavation, these resources would be evaluated, documented, and studied in accordance with standard archaeological practice; and (2) archaeological deposits and human remains would be treated in accordance with appropriate State codes and regulations. As such, implementation of the above COA would ensure that the project's potential impacts to archaeological historical resources would be less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? ***(Less-Than-Significant Impact)***

In accordance with CEQA Guidelines Section 15064.5(c)), if the project would affect an archaeological deposit, the lead agency must first determine whether the deposit is a "historical resource" (see CEQA Guidelines Section 15064.5(a)). If the deposit is not a historical resource, the lead agency must determine if the deposit is a "unique archaeological resource."

As described above, background research was done to identify archaeological deposits and the potential for encountering such deposits, including those that qualify as archaeological resources under CEQA. This background research determined that there are no recorded archaeological resources on the project site, although there is a potential for encountering subsurface archaeological deposits during construction.

Based on the significance criteria identified above, the project would have a significant impact on the environment if ground-disturbing activities would cause a substantial adverse change in the significance of a historical or archaeological resource. A substantial adverse change in the significance of an archaeological resource would occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)). For the proposed project, the significance of a historical resource would be materially impaired if ground disturbance would alter in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources. The proposed project could affect previously unidentified archaeological deposits, thereby causing a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5. However, potential impacts would be less than significant with implementation of the City's standard COA as described in Section 3.3.b.

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries? ***(Less-Than-Significant Impact)***

No human remains have been identified at the project site. Native American skeletal remains are

often associated with archaeological deposits, which are frequently buried in this region beneath Holocene alluvial soils. If human remains are identified during project construction, Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code shall apply, as appropriate. Project ground-disturbing activities have the potential to unearth Native American human remains. The proposed project would be required to comply with the following COA to ensure that this impact would be less than significant.

COA 9.12: If human remains are encountered, work within 25 feet of the discovery shall be directed and the County Coroner and the Community Development Director immediately notified. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. The project sponsor shall also be notified. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The project sponsor shall comply with these recommendations. The report shall be submitted to the project sponsor, the Foster City Community Development Department, the MLD, and the Northwest Information Center.

3.6 ENERGY

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

*a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? **(Less-Than-Significant Impact)***

The proposed project would increase the demand for electricity, natural gas, and gasoline. The discussion and analysis provided below is based on data included in the California Emissions Estimator Model (CalEEMod) output, which is included in Appendix A.

Construction-Period Energy Use. The anticipated construction schedule assumes that the proposed project would be built over approximately 17 months. The proposed project would require demolition, grading, site preparation, building, paving, and architectural coating activities during construction.

Construction of the proposed project would require energy for the manufacture and transportation of building materials, preparation of the site for demolition and grading activities, and building construction. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. However, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. In addition, according to the project sponsor, the proposed project's LEED best practices would encourage sourcing local materials and reduced truck idling while at the project site. Therefore, construction energy impacts would be less than significant.

Operational Energy Use. Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with the project. Energy and natural gas consumption was estimated for the project using default energy intensities by land use type in CalEEMod. In addition, the proposed building would be constructed to current Title 24 standards, which was included in CalEEMod inputs. Electricity and natural gas usage estimates associated with the proposed project are shown in Table A. The project sponsor also intends to achieve LEED Silver standards or equivalent. Because the exact standards to be implemented are not known at this time, these standards were not included in CalEEMod; therefore, the analysis is conservative.

In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related trips. Based on the CalEEMod analysis, the proposed project would result in

approximately 1,274,105 vehicle miles traveled (VMT) per year.[18] The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.2 mpg in 2019.[19] Therefore, using the average fuel economy estimates for 2019, the proposed project would result in the consumption of approximately 57,392 gallons of gasoline per year. Table B, below, shows the estimated potential increased electricity and natural gas demand associated with the proposed project.

Table B: Estimated Annual Energy Use of Proposed Project

Electricity Use (kWh per year)	Natural Gas Use (therms per year)	Gasoline (Gallons per year)
634,438	14,746	57,392

Source: Compiled by LSA (June 2021).

As shown in Table B, the estimated potential increased electricity demand associated with the proposed project is 634,438 kilowatt-hours (kWh) per year. In 2019, the year for which the most recent data is available, California consumed approximately 279,401 gigawatt-hours (GWh) or 279,401,879,875 kWh.[20] Of this total, San Mateo County consumed 4,325 GWh or 4,325,279,371 kWh.[21] Therefore, electricity demand associated with the proposed project would only be approximately 0.01 percent of San Mateo County's total electricity demand.[22]

The estimated potential increased natural gas demand associated with the proposed project is 14,746 therms per year, as shown in Table B. In 2019, California consumed approximately 13,158 million therms or 13,158,207,489 therms, while San Mateo County consumed approximately 214 million therms or approximately 214,429,843 therms.[23] Therefore, natural gas demand associated with the proposed project would only be approximately 0.01 percent of San Mateo County's total natural gas demand.

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18 A Transportation Impact Analysis (TIA) will be prepared as part of the EIR. The TIA and EIR may include a refined estimate of VMT; however, any variation in estimated VMT would not affect the analysis or conclusions related to energy as presented in this section.

19 U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles (accessed May 2021).

20 California Energy Commission. 2021. Energy Consumption Data Management Service. Electricity Consumption by County. Website: www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed May 2021).

21 Ibid.

22 The electricity estimates provided in Table B were calculated assuming a 60,000 square foot office land use and 35,391 square foot parking garage space and therefore slightly underestimate the energy use of the proposed office land use by approximately 35,391 square feet and overestimate the energy use of the proposed garage space by approximately 6,912 square feet. However, the overall projected electricity demand would only slightly increase and would be less than 0.02 percent of San Mateo County's total electricity demand; therefore, the impact would remain less than significant.

23 California Energy Commission. 2021. Energy Consumption Data Management Service. Gas Consumption by County. Website: www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed May 2021).

In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related trips. As shown above in Table A, vehicle trips associated with the proposed project would consume approximately 57,392 gallons of gasoline per year. In 2015, vehicles in California consumed approximately 15.1 billion gallons of gasoline.[24] Therefore, gasoline demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California.

The proposed project would be constructed to current Title 24 standards, which would help to reduce energy and natural gas consumption. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. Construction and operation period impacts related to consumption of energy resources would be less than significant.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? ***(Less-Than-Significant Impact)***

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

The CEC approved the 2020 Integrated Energy Policy Report in March 2021.[25] The 2020 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2020 Integrated Energy Policy Report covers a broad range of topics, including implementation of Senate Bill 350, which includes new requirements for the California Public Utilities Commission, CARB, California Independent System Operator (ISO), utilities, and electrical corporations, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand

[24] California Energy Commission. 2017. California Gasoline Data, Facts, and Statistics. Website: www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics (accessed May 2021).

[25] California Energy Commission. 2019. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

forecast, renewable gas (in response to Senate Bill 1383), updates on California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the project site during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2020 Integrated Energy Policy Report. Thus, as shown above, the project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and this impact would be less than significant.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative 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?	☐	☐	☒	☐

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

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

ii. Strong seismic ground shaking?

iii. Seismic-related ground failure, including liquefaction?

iv. Landslides? (Less-Than-Significant Impact)

The project site is located within the Coast Ranges geomorphic province,[26] which includes numerous active faults identified by the California Geological Survey (CGS) under the Alquist-Priolo Earthquake Fault Zoning Act. CGS defines an active fault as one that has ruptured during the Holocene Epoch (i.e., the last 11,000 years). The Working Group on California Earthquake Probabilities and the U.S.

[26] A geomorphic province is a naturally defined geologic region that displays a distinct combination of features based on geology, faults, topography, and climate. Eleven geomorphic provinces are recognized in California.

Geological Survey (USGS) have predicted a 6.4 percent probability of a 6.7 magnitude (Mw, or Moment Magnitude)[27] or greater earthquake on the Northern San Andreas Fault between 2014 and 2044, a 14.3 percent chance on the Hayward Fault, and a total probability of 72 percent that an earthquake of that magnitude will occur on one of the regional San Francisco Bay Area faults during that time.[28] The nearest Alquist-Priolo Earthquake Fault Zone is the San Andreas Fault, located about 5 miles southwest of the project site.[29] Potential impacts associated with seismic activity including fault rupture, ground shaking, ground failure, liquefaction, and landslides are discussed below.

Fault Rupture. Surface fault rupture occurs when the ground surface is broken due to fault movement during an earthquake. Fault rupture is generally expected to occur along known active fault traces. Areas susceptible to fault rupture are delineated by the CGS Alquist-Priolo Earthquake Fault Zones map and require specific geological investigations prior to development to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake-induced ground failure. The project site is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone[30] or an active or potentially active fault. Therefore, potential impacts related to surface fault rupture would be less than significant.

Ground Shaking. Seismic ground shaking generally refers to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The Geotechnical Investigation prepared for the proposed project identified strong to very strong ground shaking at the project site during a seismic event.[31]

The 2019 California Building Code (CBC) is based on the 2018 International Building Code and covers grading and other geotechnical issues, building specifications, and non-building structures, such as chimneys and tanks. The City of Foster City Municipal Code amends the most current State building codes, as indicated in Municipal Code Chapter 15.02. The City's Building Division is responsible for reviewing plans, issuing building permits, and conducting field inspections. The design of the project would be required to conform to the current CBC at the time of plan review, which would be the 2019 CBC.

The 2019 CBC requires that a site-specific geotechnical investigation be conducted and a geohazard report be prepared by a licensed professional for all proposed construction to evaluate geologic and seismic hazards, except for one-story, wood-frame and light-steel-frame buildings that are located outside of the Earthquake Fault Zones or Seismic Hazard Zones as shown in the CGS maps with less than or equal to 4,000 square feet in floor area. The purpose of a site-specific geotechnical

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27 Moment magnitude (MW) is now commonly used to characterize seismic events as opposed to Richter Magnitude. Moment magnitude is determined from the physical size (area) of the rupture of the fault plane, the amount of horizontal and/or vertical displacement along the fault plane, and the resistance to rupture of the rock type along the fault.

28 United States Geological Survey. 2015. UCERF3: A New Earthquake Forecast for California's Complex Fault System, USGS Fact Sheet 2015-3009. March. Available online at: pubs.usgs.gov/fs/2015/3009/pdf/fs2015-3009.pdf (accessed June 2021).

29 California Geological Survey. n.d. Earthquake Zones of Required Investigation, San Mateo Quadrangle. Earthquake Fault Zones released July 1, 1974. Seismic Hazard Zones released January 11, 2018.

30 Ibid.

31 Rockridge Geotechnical. 2021b. op. cit.

investigation is to identify seismic and geologic conditions that may need to be addressed to ensure safety and adequate performance of improvements, such as ground shaking, liquefaction, differential settlement, and expansive soils. Based on the conditions of the site, the building code requires specific design parameters to ensure construction of buildings that will resist collapse during an earthquake. These design parameters do not protect buildings from all earthquake shaking hazards but are designed to reduce hazards to a manageable level. Requirements for the geotechnical investigation are presented in Chapter 16 "Structural Design" and Chapter 18 "Soils and Foundation" of the 2019 CBC.

The Geotechnical Investigation prepared for the proposed project is a final design-level geotechnical investigation, which is in accordance with the seismic design provisions presented in the 2019 CBC and in Chapter 21 of American Society of Civil Engineers (ASCE) Standard 7-16.[32] Compliance with the 2019 CBC would ensure that the project would be designed and constructed in accordance with geotechnical recommendations to account for and withstand seismic and geologic hazards that could have adverse effects on the project, thereby minimizing exposure of people and structures to substantial risk of loss, injury, or death during a large regional earthquake. It is acknowledged that seismic hazards cannot be completely eliminated, even with site-specific geotechnical investigation/ design and advanced building practices. However, the seismic design standards of the 2019 CBC are intended to prevent catastrophic building failure in the most severe earthquakes currently anticipated.

In addition, implementation of COA 2.2, as follows, would require a final design-level geotechnical investigation report (the Geotechnical Investigation prepared for this project) to be approved by the City's Building Division. Adherence to the requirements and guidelines of the 2019 CBC and the final design-level geotechnical investigation as required by COA 2.2 would ensure that potential impacts related to seismic ground shaking would be less than significant.

> **COA 2.2:** Three (3) sets of a site specific, design level, fault zone geotechnical report satisfactory to the Chief Building Official, including one electronic or pdf version, shall be submitted for review and approval to the Building Division and contain design recommendations for grading, footings, retaining walls, and provisions for anticipated differential settlement for each construction site within the project area. Specifically:
>
> - Each investigation shall include an analysis of expected ground motions at the site identified faults. The analysis shall be in accordance with applicable City ordinances and policies, and consistent with the most recent version of the California Building Code, which requires structural design that can accommodate ground accelerations expected from identified faults. The analysis presented in the geotechnical investigation report shall provide recommendations to minimize seismic damage to structures from total and differential settlements and to protect steel and concrete (and any other material that may be placed in the subsurface) from long-term deterioration caused by contact with corrosive on-site soils. All design measures, recommendations, design criteria, and specifications set forth in the final geotechnical investigation report shall be implemented.

[32] Ibid.

- The investigations shall determine final design parameters for the walls, foundations, foundation slabs, surrounding related improvements, and infrastructure (utilities, roadways, parking lots and sidewalks).

- The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer, geotechnical engineer, shall be included in the final design, as approved by the City of Foster City.

- The geotechnical report shall include a map prepared by a land surveyor or civil engineer that shows all field work and location of the "No Build" zone. The map shall include a statement that the locations and limitations of the geologic features are accurate representations of said features as they exist on the ground, were placed on this map by the surveyor, the civil engineer or under their supervision, and are accurate to the best of their knowledge.

- The geotechnical report for the project shall include evaluation of fixtures, furnishings, and fasteners with the intent of minimizing collateral injuries to building occupants from falling fixtures or furnishings during the course of a violent seismic event. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the projects design phase, shall be incorporated in the project.

- Final seismic considerations for the site shall be submitted to and approved by the Building Division prior to commencement of the project.

- If deemed necessary by the Chief Building Official, a peer review may be required for the geotechnical report. Personnel reviewing the geologic report shall approve the report, reject it, or withhold approval pending the submission by the sponsor or subdivider of further geologic and engineering studies to more adequately define active fault traces.

- A licensed geotechnical engineer or their representatives shall be retained to provide geotechnical observation and testing during all earthwork and foundation construction activities. The geotechnical engineer shall be allowed to evaluate any conditions differing from those encountered during the geotechnical investigation and shall provide supplemental recommendations, as necessary. At the end of construction, the geotechnical engineer shall provide a letter regarding contractor compliance with project plans and specifications and with the recommendations of the final geotechnical investigation report and any supplemental recommendations issued during construction. The letter shall be submitted for review to the Building Division.

- The final geotechnical investigation report shall provide recommendations to minimize the potential damage to structures from total and differential settlement and to protect steel and concrete (and any other material that may be placed in the subsurface) from long-term deterioration caused by contact with corrosive on-site soils. All design measures, recommendations, design criteria, and specifications set forth in the final geotechnical investigation report shall be implemented.

Seismic-Related Ground Failure and Liquefaction. Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes transient loss of strength, which commonly causes ground displacement or ground failure to occur. Because saturated soils are a necessary condition for liquefaction, soil layers in areas where the groundwater table is near the surface have higher liquefaction potential than those in which the water table is located at greater depths.

Lateral spreading is a form of horizontal displacement of soil toward an open channel or other "free" face, such as an excavation boundary or a creek bank. In a lateral spread failure, a layer of ground at the surface is carried on an underlying layer of liquefied material over a nearly flat surface toward a free face. The lateral spreading hazard tends to mirror the liquefaction hazard for a site (when a free face is present).

The project site is located within a liquefaction hazard zone as designated on a map prepared by the CGS. The Geotechnical Investigation included a liquefaction analysis to evaluate the potential for earthquake-induced liquefaction of the soils at the site. Based on the results of the liquefaction analysis, the Geotechnical Investigation concluded that the potential for liquefaction, liquefaction-induced settlement, and ground failures associated with liquefaction, such as lateral spreading, during a Maximum Considered Earthquake is low.

Cyclic densification (also referred to as differential compaction) of non-saturated sand (sand above the groundwater table) can occur during an earthquake, resulting in settlement of the ground surface and overlying improvements. The Geotechnical Investigation concluded that there would be no impact related to cyclic densification of the soil above the groundwater table due to its cohesion. Therefore, the potential impacts related to seismic-related ground failure would be less than significant.

Landslides. Slope failure can occur as either rapid movement of large masses of soil (landslide) or slow, continuous movement (creep) on slopes of varying steepness. Areas susceptible to landslides are characterized by steep slopes and downslope creep of surface materials. The project site, as well as surrounding areas, are relatively flat, and therefore are not subject to landslides or other slope stability hazards. In addition, the project site is not located within a landslide hazard zone as designated on a map prepared by the CGS.[33] Therefore, no impacts related to landslides or other slope stability hazards would occur.

b. Would the project result in substantial soil erosion or the loss of topsoil? ***(Less-Than-Significant Impact)***

Soil erosion, which is discussed in detail in Section 3.10, Hydrology and Water Quality, could occur during project construction. As described in Section 3.10, Hydrology and Water Quality, compliance with the State Water Resources Control Board's Construction General Permit, including preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), would ensure that the project would result in a less than significant impact related to erosion or loss of top soil during construction of the project. During operation of the proposed project, the project site would be

[33] California Geological Survey. n.d., op. cit.

covered with buildings, pavement surfaces, and landscaping, which would minimize post-development erosion. Therefore, the potential impact related to substantial erosion or loss of topsoil would be less than significant.

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

Subsidence or Collapse. Subsidence or collapse can result from the removal of subsurface water resulting in either catastrophic or gradual depression of the surface elevation of the project site. According to the Geotechnical Investigation, shallow groundwater is anticipated at the project site and a design high groundwater level of 5 feet below ground surface should be used. As a result, temporary dewatering from excavations could be necessary during construction. The temporary dewatering of excavations (if needed), which is the only removal of subsurface water associated with the project, would have no impact related to significant ground subsidence or collapse.

Liquefaction or Lateral Spreading. As discussed above, the Geotechnical Investigation concluded that the potential for liquefaction, liquefaction-induced settlement, and ground failures associated with liquefaction, such as lateral spreading, is low during a Maximum Considered Earthquake. Therefore, impacts related to liquefaction and lateral spreading would be less than significant.

Landslide. As discussed above, no impacts related to landslides or other slope stability hazards would occur.

Settlement. According to the Geotechnical Investigation, the proposed building would be underlain by weak, compressible Bay Mud that extend to depths of about 55 to 60 feet below ground surface.[34] Shallow foundations, such as spread footings or a mat, bearing on these materials would experience erratic and excessive settlement to consolidation of the Bay Mud under the proposed building. Therefore, shallow foundations are not feasible for the proposed building. As a result, the Geotechnical Investigation recommended driven 14-inch-square prestressed, precast concrete piles or 16-inch diameter auger cast-in-place piles as the pile foundations to support the proposed building.[35] The project sponsor is proposing to implement displacement auger cast piles or vibrated-in H steel piles and pile driving would not occur.[36]

Implementation of COA 2.2 would require a final design-level geotechnical investigation report (the Geotechnical Investigation prepared for this project) to be approved by the City's Building Division. Adherence to the requirements in the final design-level geotechnical investigation as required by COA 2.2 would ensure that potential impacts related to unstable soils would be less than significant.

34 Ibid.
35 Rockridge Geotechnical. 2021b, op. cit.
36 Ibid.

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

Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume.

Plasticity indexes greater than 15 usually indicate a swelling problem may exist, and the percent swell generally increase with the plasticity indexes.[37] If any import of soils is required, the Geotechnical Investigation requires the fill to have a plasticity index lower than 12 and to be approved by the Geotechnical Engineer.[38] Therefore, potential impacts related to expansive soils would be less than significant.

e. Would the project 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? ***(No Impact)***

The project would not involve the use of septic tanks or alternative waste water disposal systems; therefore, no impact would occur.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***(Less-Than-Significant Impact)***

The project site is underlain by artificial fill and Bay Mud.[39] The artificial fill units underneath the project site are not considered paleontologically sensitive. The results of a search of identified paleontological localities collections database maintained by the University of California Museum of Paleontology did not identify any paleontological finds in Bay Mud near the project site.[40] While it is possible that the Bay Mud could preserve a variety of marine invertebrate fossils (mollusks, clams, foraminifera, microorganisms, etc.), such fossils exist in other Bay Mud deposits all around the Bay Area and would not be considered significant or unique. Therefore, the Bay Mud beneath the project site is considered to have low paleontological sensitivity.

The Geotechnical Investigation recommended deep foundations that extend below the Bay Mud (which extends to depths of about 50 to 60 feet below the ground surface) and into the stiffer alluvial deposits.[41] The age and sensitivity of the underlying alluvial deposits are not known for

37 Federal Highway Administration. 1977. An evaluation of expedient methodology for identification of potentially expansive soils. Report No. FHWA-RD-77-94. June.
38 Rockridge Geotechnical. 2021b, op. cit.
39 Ibid.
40 University of California Museum of Paleontology. 2021. Collections Database, Locality Search. Website: ucmpdb.berkeley.edu/loc.html (accessed July 2021).
41 Rockridge Geotechnical. 2021b, op. cit.

certain. However, in much of the Bay Area, the Bay Mud is underlain by Pleistocene alluvium[42] and may contain fossils. Review of Pleistocene age paleontological localities in a collections database maintained by the University of California Museum of Paleontology identified fossil plants, vertebrates, and invertebrates with locality names that are not in the vicinity of the project site. However, the review also identified some invertebrates and microfossils that do not have a specified locality name and, therefore, could be located in the project vicinity.[43] Therefore, the stiffer underlying alluvial deposits could be paleontologically sensitive. However, the project would not involve substantial excavation that would disturb the underlying alluvial deposits (i.e., only foundation piles would extend into this unit). Since the dominant geologic units at the project site that would be disturbed by construction (artificial fill and Bay Mud) are not considered paleontologically sensitive, the potential impacts on paleontological resources would be less than significant. Nevertheless, development projects that require a use permit are required to comply with the following COA, to be implemented in the event that paleontological resources are encountered during ground disturbing activities. Implementation of this COA would further ensure that this impact would be less than significant.

COA 2.2: If paleontological resources are discovered during project activities, all work within 25 feet of the discovery shall be redirected and the Community Development Director immediately notified. A qualified paleontologist shall be contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Paleontological resources include fossil plants and animals, and evidence of past life such as trace fossils and tracks. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Fossil vertebrate land animals may include bones of reptiles, birds, and mammals. Paleontological resources also include plant imprints, petrified wood, and animal tracks.

Upon completion of the assessment, the paleontologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the paleontological resources discovered. This report shall be submitted to the project sponsor, the Foster City Community Development Department, and the paleontological curation facility.

Adverse effects to paleontological resources shall be avoided by project activities. If avoidance is not feasible (as determined by the City, in conjunction with the qualified paleontologist), the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, adverse effects on the resources shall be avoided, or such effects shall be mitigated. Mitigation can include, but is not necessarily limited to: excavation of paleontological resources using standard paleontological field methods and procedures; laboratory and technical analyses of recovered materials; production of a report detailing the methods, findings, and significance of recovered fossils; curation of paleontological materials at an appropriate facility (e.g., the University of California

[42] Helley, E.J. and K.R. LaJoie. 1979. Flatland deposits of the San Francisco Bay Region, California-their geology and engineering properties, and their importance to comprehensive planning. USGS Professional Paper 943.

[43] University of California Museum of Paleontology. 2021, op. cit.

Museum of Paleontology) for future research and/or display; an interpretive display of recovered fossils at a local school, museum, or library; and public lectures at local schools on the findings and significance of the site and recovered fossils. The City shall ensure that any mitigation involving excavation of the resource is implemented prior to project construction or actions that could adversely affect the resource.

3.8 GREENHOUSE GAS EMISSIONS

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

a. through b. ***(Potentially Significant Impact)***

Construction and operation of the proposed project would result in the consumption of fuel and energy resulting in the emission of greenhouse gasses. Typically, an individual project does not generate sufficient greenhouse gas emissions to influence global climate change sufficiently on its own; therefore, the issue of global climate change is cumulative in nature. Implementation of the project, through construction and operational activities, would generate greenhouse gas emissions that could cumulatively contribute to global climate change and could conflict with the City's Climate Action Plan. Therefore, the criteria identified above for topics 3.8.a through 3.8.b will be evaluated in the EIR.

3.9 HAZARDS AND HAZARDOUS MATERIALS

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

a. through g. ***(Potentially Significant Impact)***

The proposed project would consist of the construction of an R&D building that would include both laboratory and office uses. This proposed use could involve the acceptance, movement, storage, use, disposal, and off-site transportation of potentially hazardous materials. Additionally, the proposed project would include an emergency generator, which would require the transport and storage of diesel fuel. Therefore, the criteria identified above for topics 3.9.a through 3.9.g will be evaluated in the EIR.

3.10 HYDROLOGY AND WATER QUALITY

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

*a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? **(Less-Than-Significant Impact)***

Regional Drainage. The existing project site, which is located within the Seal Slough Watershed, is relatively flat and about 80 percent of the site is covered by impervious surfaces (parking lot, sidewalk, and building roof). The existing stormwater from the project site either infiltrates through the surface soils within the landscaped areas of the project site, or runs off the impervious surfaces into the adjacent streets where it collects in the City's storm drainage system and discharges into the Foster City Lagoon system.[44] Stormwater that enters Foster City Lagoon flows by gravity to, or is pumped into, the Bay.[45]

Surface Water and Groundwater Quality. The quality of surface water and groundwater in the vicinity of the project site is affected by past and current land uses (both at the site and within the watershed) and by the composition of geologic materials in the vicinity. The State Water Resources

[44] Oakland Museum of California. n.d. Seal Slough Watershed. Website: explore.museumca.org/creeks/1510-RescSeal.html (accessed June 2021).

[45] Foster City, City of. 2016. *Foster City General Plan*. February 1.

Control Board (State Water Board) and its nine regional water boards regulate water quality of surface water and groundwater bodies throughout California. In the Bay Area, including the project vicinity, the San Francisco Bay Regional Water Quality Control Board is responsible for implementing the Water Quality Control Plan (Basin Plan).[46] The Basin Plan establishes beneficial water uses for waterways and water bodies within the region and is a master policy document for managing water quality in the region.

Foster City Lagoon is listed in the Basin Plan as providing the beneficial uses of estuarine habitat, wildlife habitat, water contact recreation, and noncontact water recreation. The Lower San Francisco Bay is listed as providing the beneficial uses of industrial service supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact and noncontact recreation, and navigation.[47]

Under Section 303 (d) of the federal Clean Water Act (CWA), states must present the U.S. Environmental Protection Agency (EPA) with a list of "impaired water bodies," defined as those water bodies that do not meet water quality standards, which in some cases results in the development of a total maximum daily load (TMDL) for the water body. On a broad level, the TMDL process leads to a "pollution budget" designed to restore the health of a polluted body of water. The TMDL process includes a quantitative assessment of the sources of pollution contributing to a violation of the water quality standards and identifies the pollutant load reductions or control actions needed to restore and protect the beneficial uses of the impaired waterbody. Foster City Lagoon is not listed as an impaired water body. Lower San Francisco Bay has been listed as an impaired water body due to impacts from chlordane, dichlorodiphenyltrichloroethane [DDT], dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), dioxin-like PCBs, and trash. TMDLs have been established for mercury and PCBs in Lower San Francisco Bay.[48]

The project site is in the Santa Clara Valley Groundwater Basin, San Mateo Plain Subbasin. The San Mateo Plain Subbasin is listed in the Basin Plan as providing existing beneficial uses of municipal and domestic water supply, industrial process water supply, and industrial service water supply, and providing potential beneficial uses of agricultural water supply.[49]

National Pollutant Discharge Elimination System. Under Section 402 of the CWA, the discharge of pollutants through a point source into waters of the United States is prohibited unless the discharge complies with a National Pollutant Discharge Elimination System (NPDES) permit. The NPDES program regulates the discharge of pollutants from municipal and industrial wastewater treatment plants and sewer collection systems, as well as stormwater discharges from industrial facilities,

46 San Francisco Bay Regional Water Quality Control Board. 2019. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).* Incorporating all amendments as of November 5.

47 Ibid.

48 State Water Board. 2017. *Final 2014 and 2016 California Integrated Report* (Clean Water Act Section 303(d) List/305(b) Report). Website: www.waterboards.ca.gov/water_issues/programs/tmdl/2014_16state_ir_reports/category5_report.shtml (accessed June 2021).

49 San Francisco Bay Regional Water Quality Control Board. 2019, op. cit.

municipalities, and construction sites. In California, implementation and enforcement of the NPDES program is conducted through the State Water Board and the nine regional water boards. The regional water boards set standard conditions for each permittee in their region, which includes effluent limitations and monitoring programs. NPDES requirements that would apply to both the construction-phase and the operation phase of the project are described below.

Construction Stormwater Runoff. The proposed project would involve construction activities that would disturb over 1 acre of land and therefore would be required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002 (Construction General Permit).[50]

To obtain coverage under the Construction General Permit, the project sponsor must provide, via electronic submittal, a Notice of Intent (NOI), a Stormwater Pollution Prevention Plan (SWPPP), and other documents required by Attachment B of the Construction General Permit. Activities subject to the Construction General Permit include clearing, grading, and ground disturbances such as grubbing and excavation. Construction General Permit activities are regulated at the local level by the San Francisco Bay Regional Water Quality Control Board.

The Construction General Permit uses a risk-based permitting approach and mandates certain requirements based on the project risk level (i.e., Level 1, Level 2, or Level 3). The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on the project location and season (e.g., wet-weather versus dry-weather activities). The receiving water risk depends on whether the project would discharge to a sediment-sensitive water body. The project risk level would be determined by the project sponsor when the NOI is filed (and when further details on the timing of construction activity are known).

The Construction General Permit performance standard calls for dischargers to minimize or prevent pollutants in stormwater discharges (as well as authorized non-stormwater discharges) through the use of controls, structures, and best management practices (BMPs) that utilize Best Available Technology for treatment of toxic and nonconventional pollutants and Best Conventional Technology for treatment of conventional pollutants. A SWPPP must be prepared by a Qualified SWPPP Developer that meets the certification requirements in the Construction General Permit. The purposes of the SWPPP are to (1) help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges; and (2) describe and ensure implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. The operation of BMPs must be overseen by a Qualified SWPPP Practitioner who meets the requirements outlined in the Construction General Permit.

The SWPPP must include a construction site monitoring program. Depending on the project risk level, the monitoring program could include visual observations of site discharges, water quality

[50] State Water Resources Control Board Division of Water Quality. 2009. Construction General Permit Fact Sheet. 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ.

monitoring of site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

Note that the City is part of the San Mateo Countywide Stormwater Pollution Prevention Program, which provides guidance and assistance to municipalities in San Mateo County to help them comply with requirements of the Construction General Permit. Additionally, the proposed project would be required to comply with the following COAs to ensure that this impact would be less than significant.

COA 2.4: Prior to issuance of a building permit, the Construction Best Management Practices (BMPs) from the San Mateo Countywide Stormwater Pollution Prevention Program shall be included as notes on the building permit drawings.

COA 2.6: Prior to issuance of a building permit, any development involving one or more acres of total land area must obtain a General Permit from the State Water Resources Control Board. This permit requires the owner/developer to do the following:

- Submit a Notice of Intent (NOI) to the State Water Resources Control Board prior to commencement of construction activity;

- Copies of the NOI and the SWPPP must be submitted to the Engineering Division along with proof of compliance.

COA 2.8: The sponsor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce potential adverse impacts to surface water quality during the construction period. The SWPPP shall be prepared by a Qualified SWPPP Practitioner (QSP). The SWPPP shall include the minimum BMPs required for the identified Risk level. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction. The SWPPP shall be designed to address the following objectives:

- All pollutants and their sources, including sources of sediment associated with construction activity are controlled;

- Where not otherwise required to be under a Regional Water Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;

- Site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology and Best Conventional Technology (BAT/BCT) standard; and

- Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

- BMPs shall be designed to mitigate construction-related pollutants and at a minimum, include the following:
    - Practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP shall specify properly-designed centralized storage areas that keep these materials out of the rain.
    - Reduce erosion of exposed soil which may include, but are not limited to: soil stabilization controls, watering for dust control, perimeter silt fences, placement of hay bales, and sediment basins. The potential for erosion is generally increased if grading is performed during the rainy season because disturbed soil can be exposed to rainfall and storm runoff.
    - If grading must be conducted during the rainy season, the primary BMPs selected shall focus on erosion control (i.e. keeping sediment on the site). End-of-pipe sediment control measures (e.g. basins and traps) shall be used only as secondary measures. Ingress and egress from the construction site shall be carefully controlled to minimize off-site tracking of sediment. Vehicle and equipment wash-down facilities shall be designed to be accessible and functional during both dry and wet conditions.
- The SWPPP shall specify a monitoring program to be implemented by the construction site supervisor, and shall include both dry and wet weather inspections. In addition, in accordance with State Water Resources Control Board requirements, monitoring shall be required during the construction period for pollutants that may be present in the runoff that are "not visually detectable in runoff."
- To educate on-site personnel and maintain awareness of the importance of stormwater quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP.
- A QSP shall be responsible for implementing BMPs at the site. The QSP shall also be responsible for performing all required monitoring, and BMP inspection, maintenance and repair activities. The developer shall retain an independent monitor to conduct weekly inspections and provide written monthly reports to the Engineering Division to ensure compliance with the SWPPP. Water Board personnel, who may make unannounced site inspections, are empowered to levy considerable fines if it is determined that the SWPPP has not been properly prepared and implemented.
- The SWPPP shall be prepared to the satisfaction of the Engineering Division.

COA 2.17: Prior to commencement of any site work or placement of any construction trailers, the sponsor shall submit a Site Logistics Plan showing proposed haul routes, placement of the construction trailers (if any) and areas for materials/equipment materials/equipment delivery,

materials/equipment storage, waste collection and maintenance/fueling of vehicles/equipment. The Site Logistics Plan shall be subject to approval by the Community Development Director.

- The Site Logistics Plan designated storage areas for material delivery, storage, and waste collection shall be as far away from catch basins, gutters, drainage courses, and water bodies as possible. All hazardous materials and wastes used or generated during project site development activities shall be labeled and stored in accordance with applicable local, state, and federal regulations. In addition, an accurate up-to-date inventory, including Material Safety Data Sheets, shall be maintained on-site to assist emergency response personnel in the event of a hazardous materials incident.

- The Site Logistics Plan designated area for all maintenance and fueling of vehicles and equipment shall be bermed or over a drip pan that will not allow run-off of spills. Vehicles and equipment shall be regularly checked and have leaks repaired promptly at an off-site location. Secondary containment shall be used to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured.

- The Site Logistics Plan shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Implementation of COA 2.4 requires the use of construction BMPs from the San Mateo Countywide Stormwater Pollution Prevention Program to be included as notes on the building permit prior to issuance of a building permit. Implementation of COA 2.6 requires the project sponsor to submit evidence of compliance with Construction General Permit to the City's Engineering Division. Implementation of COA 2.8 requires the SWPPP to include BMPs consistent with the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction. Implementation of COA 2.17 requires storage areas for material delivery, storage, and waste collection as far away from catch basins, gutters, drainage courses, and water bodies as possible, and requires labeling and storing all hazardous materials and wastes in accordance with applicable local, State, and federal regulations.

Compliance with the requirements of the Construction General Permit and with the City's COAs would ensure that water quality impacts due to discharge of construction-related stormwater runoff would be less than significant.

Construction Dewatering. According to the Geotechnical Investigation, shallow groundwater is anticipated at the project site and a design high groundwater level of 5 feet below ground surface should be used.[51] As a result, temporary dewatering from excavations could be necessary during construction. Dewatering effluent may have high turbidity. Turbid/contaminated groundwater could cause degradation of the receiving water quality if discharged directly to storm drains without treatment. As stated in the Construction General Permit, non-stormwater discharges to receiving waters or the storm drain system have the potential to negatively impact water quality.

[51] Rockridge Geotechnical. 2021b, op. cit.

The discharge of dewatering effluent would be subject to permits from the Estero Municipal Improvement District or the San Francisco Bay Regional Water Quality Control Board, depending on whether the dewatering effluent is discharged to the sanitary sewer or stormwater system, respectively. Any discharge or activity which may result in pollutants entering the City's stormwater system would also be required to comply with the City's Green Infrastructure Plan[52] as codified by Foster City Municipal Code Section 13.12.110.B. Under existing State law, it is illegal to allow unpermitted non-stormwater discharges to receiving waters. The discharger must implement measures to control all non-stormwater discharges during construction, and from dewatering activities associated with construction. Discharging any pollutant-laden water that would cause or contribute to an exceedance of water quality standards is prohibited.[53]

In order to discharge the potentially contaminated dewatering effluent generated during construction activities on the project site to the storm drains (receiving water), the discharger could potentially prepare a Report of Waste Discharge, and if approved by the San Francisco Bay Regional Water Quality Control Board, be issued site-specific Waste Discharge Requirements under the NPDES regulations. Site-specific Waste Discharge Requirements contain rigorous monitoring requirements and performance standards that, when implemented, ensure that receiving water quality is not substantially degraded.

If it is determined that the water is not suitable for discharge to the storm drain (receiving water) and it is not possible to obtain Waste Discharge Requirements, dewatering effluent may be discharged to the EMID sanitary sewer system if special discharge criteria are met. These include, but are not limited to, application of treatment technologies or best management practices that will result in achieving compliance with the wastewater discharge limits. Discharges to EMID's facilities must occur under a Special Discharge Permit. EMID manages the water it accepts into its facilities so that it can ensure proper treatment of wastewater at the treatment facility prior to discharge.

If it is infeasible to acquire site-specific Waste Discharge Requirements or meet EMID Special Discharge Permit requirements, the construction contractor would be required to transport the dewatering effluent off-site for treatment and disposal.

Compliance with local and NPDES regulatory requirements governing non-stormwater discharges to the sanitary sewer system and stormwater system/receiving waters, respectively, would ensure that water quality impacts related to discharges of construction dewatering effluent would be less than significant.

Operation Stormwater Runoff. Because the proposed project would replace over 10,000 square feet of existing impervious surface area, the project would be required to comply with Provision C.3 of the NPDES Municipal Regional Permit (MRP). The MRP is overseen by the San Francisco Bay Regional Water Quality Control Board.

Provision C.3 requires regulated projects to implement Low Impact Development (LID) source control, site design, and stormwater treatment. LID employs principles such as preserving and

52 Foster City, City of. 2019. *Green Infrastructure Plan*. August.

53 State Water Resources Control Board Division of Water Quality. 2009, op. cit.

recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and flow-through planter/tree boxes. The project would involve a bioretention area at the northeastern corner of the project site and flow-through planters on the east side and south side of the proposed building.

MRP Provision C.3.g pertains to hydromodification management and contains the following requirements: (1) stormwater discharges shall not cause an increase in the erosion potential of the receiving stream over the existing condition; and (2) increases in runoff flow and volume shall be managed such that post-project runoff does not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force. The project site is not susceptible to hydromodification as the project site is in a low-gradient area.

The City is part of the San Mateo Countywide Stormwater Pollution Prevention Program, which provides guidance and assistance to municipalities in San Mateo County to help them comply with requirements of the MRP. Additionally, the proposed project would be required to comply with the following COAs to ensure that this impact would be less than significant.

COA 2.7: Prior to issuance of a building permit, the plans shall demonstrate compliance with the San Mateo Countywide Water Pollution Prevention Program, (see www.flowstobay.org including, but not limited to, submittal of checklists related to impervious surface and stormwater:

- C.3 and C.6 Checklist
- Project sponsor checklist for NPDES Permit Requirements
- Stormwater Control Plan: Any improvements identified in the SWCP shall be constructed prior to first occupancy to the satisfaction of the Engineering Division.

COA 5.9.3: The sponsor shall fully comply with the C.3 provisions of the Municipal Regional Stormwater NPDES Permit (MRP). Responsibilities include, but are not limited to, designing Best Management Practices (BMPs) into the project features and operation to reduce potential impacts to surface water quality associated with operation of the project. These features shall be included in the design-level drainage plan and final development drawings. Specifically, the final design shall include measures designed to mitigate potential water quality degradation of runoff from all portions of the completed development.

- All Stormwater control measures outlined in the current San Mateo Countywide Water Pollution Prevention Program's C.3 Stormwater Technical Guidance manual shall be incorporated into the project design. Low Impact Development features, including rainwater harvesting and reuse, and passive, low-maintenance BMPs (e.g., grassy swales, porous

pavements) are required under the MRP. Higher-maintenance BMP's may only be used if the development of at-grade treatment systems is not possible, or would not adequately treat runoff. Funding for long-term maintenance for all BMPs must be specified (as the City will not assume maintenance responsibilities for these features). The sponsor shall establish a self-perpetuating drainage system maintenance program for the life of the project that includes annual inspections of any stormwater detention devices and drainage inlets. Any accumulation of sediment or other debris would need to be promptly removed. In addition, an annual report documenting the inspection and any remedial action conducted shall be submitted to the Public Works Development for review and approval.

- The drainage plan shall be prepared to the satisfaction of the Engineering Division.

COA 8.13: The Developer shall submit a letter signed and stamped by the licensed landscape architect verifying that the plants that have been selected for the bioretention area/swale are drought tolerant, inundation tolerant, and require minimal maintenance consistent with the C.3/C.6 Checklist, as provided in Appendix A of the San Mateo County Wide Water Pollution Prevention Program's C.3 Stormwater Technical Guidance Handbook at www.flowstobay.org.

COA 10.9: Prior to final building inspection, the property owner shall submit a Maintenance Agreement for Stormwater Treatment Measures and Hydromodification Management Controls, including a Maintenance Plan pertinent to the type(s) of measures included in the project, pursuant to the San Mateo Countywide Water Pollution Prevention Program (www.flowstobay.org). Following review and approval by City staff, the property owner shall have the Maintenance Agreement recorded prior to building occupancy approval. The Maintenance Agreement shall be made a part of any CC&Rs recorded for the property and shall include the following statements:

- The property owner shall be responsible for conducting all servicing and maintenance as described and required by the approved Maintenance Plan(s). Maintenance of all site design and treatment control measures shall be the owner's responsibility.

- Site access shall be granted to representatives of the City, the San Mateo County Mosquito and Vector Control District, and the Water Board, at any time, for the sole purpose of performing operation and maintenance inspections of the installed stormwater treatment systems.

Implementation of COA 2.7 requires the project sponsor to submit a Stormwater Control Plan (SWCP) to demonstrate compliance with the San Mateo Countywide Water Pollution Prevention Program. Implementation of COA 5.9.3 requires the project to comply with Provision C.3 of the MRP. Implementation of COA 8.13 requires specific plants for bioretention areas or swales that are drought tolerant, inundation tolerant, and require minimal maintenance. Implementation of COA 10.9 requires a Maintenance Agreement for stormwater treatment measures and hydromodification management controls.

Compliance with the requirements of the MRP and with the City's COAs would ensure that water quality impacts during operation of the proposed project would be less than significant.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? ***(Less-Than-Significant Impact)***

Temporary dewatering from excavations could be necessary during construction. Construction-related dewatering would be temporary and limited to the area of excavations on the project site and would not substantially contribute to depletion of groundwater supplies.

The project would result in an increase in impervious surfaces on the project site compared to the existing condition (from about 76,200 square feet to 79,250 square feet). However, the project site is underlain by Hydrologic Group C soils, which have moderately high runoff potential and water transmission through the soil is relatively restricted.[54, 55] Therefore, these soils would not allow substantial infiltration of stormwater and associated aquifer recharge to occur. Furthermore, groundwater on site would not be used during the operation phase of the project. However, the overall stormwater flow rate would slightly decrease due to the detention in the C.3 stormwater treatment measures (bioretention areas and flow through planters). The bioretention area and flow through planters slow down the flow rate of stormwater runoff when discharging to the existing public system. Therefore, the potential for the project to impact groundwater supplies or groundwater recharge would be less than significant.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows? ***(Less-Than-Significant Impact)***

Erosion or Siltation. Construction activities would involve excavation and grading, which would temporarily alter drainage patterns and expose soil to potential erosion. As described under Section 3.10.a above, compliance with the Construction General Permit and the City's COAs would ensure that erosion of exposed soil and sedimentation of receiving waters or the sewer system would be minimized to the extent feasible during construction of the proposed project.

During operation of the project, the site and surrounding areas would be covered by buildings, pavement, and landscaped areas, with no ongoing soil exposure or disturbance that could result in erosion and siltation. Because the project site is in a low-gradient area and stormwater is conveyed from the project site to the Bay via underground storm drainpipes, stormwater runoff from the project site would not cause erosion in the downstream drainage courses. Therefore, operation of

54 Natural Resources Conservation Service. 2021. Web Soil Survey, USDA Mapping Website. Website: websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed June 16, 2021).

55 Natural Resources Conservation Service. 2007. *Part 630 Hydrology National Engineering Handbook, Chapter 7, Hydrologic Soil Groups*. May.

the project would have a less-than-significant impact on erosion or siltation associated with changing drainage patterns.

Flooding and Local Stormwater System Drainage Capacity. Implementation of the proposed project would involve placement of new impervious surfaces on the project site. Without proper design, the placement of new impervious surfaces could result in increased runoff volumes and rates that could exceed the capacity of the existing storm drain systems and result in localized flooding. The proposed project would be required to comply with the following COAs to ensure that this impact would be less than significant.

COA 5.9.1: Prior to issuance of a building permit, the improvement plans shall include the design of stormwater improvements in accordance with the City's Standard Details/Specifications and to the satisfaction of the Engineering Division. Stormwater improvements items of construction should include at least the following:

- Surface and subsurface storm drain facilities;
- Manholes with manhole frames and covers;
- Catch basins and laterals;
- Construct all catch basins as silt detention basins; and
- Together with appurtenances, to any or all of the above.

COA 5.9.2: Prior to issuance of a building permit, a complete storm drainage study of the proposed development shall be prepared by a registered civil engineer and submitted as part of the improvement plans package. Drainage facilities shall be designed in accordance with accepted engineering principles and be approved by the Engineering Division. The hydrology/hydraulic analysis shall include the following:

- The amount of runoff, and existing and proposed drainage structure capacities.
- Verification that the existing storm drain system is adequately sized to handle the run-off from the project.
- Conformance with the City's Drainage Design Criteria/Standards available on the City's website: www.fostercity.org/publicworks/page/city-standard-design-criteria
- Calculations and plans showing hydraulic gradelines.
- Evidence that the system is capable of handling a 25-year storm with the hydraulic grade line at least one foot below every grate.
- No overloading of the existing system will be permitted. All needed improvements shall be installed by the sponsors at sponsors' sole cost.

COA 5.9.4: Prior to issuance of a building permit, should the City determine that the City's storm drain system or storm drain pumping capacity requires expansion or modification as a result of the sponsors' development, the sponsors shall pay for all necessary improvement costs. The timing and amount of payment shall be as determined by the City.

Implementation of COA 5.9.1 requires the stormwater system to be capable of handling a 25-year storm and the drainage facilities to be designed in accordance with accepted engineering principles and conform to the Foster City Drainage Design Criteria. Implementation of COA 5.9.2 requires that a complete storm drainage study be approved by the City's Engineering Division, which ensures no overloading of the existing system. This COA also requires a hydrology/hydraulic analysis to be completed to verify the existing off-site storm drainage system is adequately sized to handle the runoff from the project. Implementation of COA 5.9.4 requires the sponsor to pay for all necessary improvement costs if the City determines that the City's storm drain system or storm drain pumping capacity requires expansion or modification as a result of the sponsor's proposed development.

Compliance with the City's COAs would ensure that the potential impacts related to on-site and off-site flooding and exceeding the local stormwater system drainage capacity as a result of changes in drainage patterns would be less than significant.

Flood Flows. The project site is designated as Zone X "Area with Reduced Flood Risk due to Levee" on Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA).[56] However, FEMA has found that 85 percent of the Foster City's levee system does not meet FEMA requirements to provide the protection from the 1-percent annual chance (i.e., 100-year) flood.[57] FEMA granted Foster City a temporary "seclusion mapping" designation in 2015 to remain classified as Zone X with reduced flood risk due to levee. To address the deficiencies of the levee, Foster City has embarked on the Foster City Levee Protection Improvements Project (Foster City Levee Project) to provide flood protection and retain FEMA accreditation for its existing levee system. The Foster City Levee Project has gone through CEQA review and the EIR was certified in May 2017. Construction of the Foster City Levee Project started in October 2020. According to the most recent schedule that was updated February 2021, construction of the Foster City Levee Project is anticipated to be completed in January 2024.[58] Once the Foster City Levee Project is completed, the levee is anticipated to provide the City protection from the 100-year flood. As a result, the project is expected to remain in an area of reduced flood risk due to the upgraded levee and impacts associated with impeding or redirecting flood flows would be less than significant.

Dam failure could also result in downstream flooding. Foster City is located within the inundation area of the Lower Crystal Springs Dam (LCSD).[59] However, the LCSD is within jurisdiction of the State of California and the condition assessment rating is satisfactory, indicating no existing or potential

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56 Federal Emergency Management Agency. 2019. Flood Insurance Rate Map (FIRM), San Mateo County, California and Incorporated Areas, Map Number 06081C0167G, revised April 5.

57 Foster City, City of. 2021. Public Works, Levee System. Website: www.fostercity.org/publicworks/page/levee-system (accessed June 2021).

58 Foster City, City of. 2021. Levee Improvements Project. Website: www.fostercitylevee.org/ (accessed June 2021).

59 Foster City, City of. 2016. *Foster City General Plan.* February 1.

dam safety deficiencies are recognized.[60] In addition, a risk evaluation from 2010 indicated that the potential for dam failure of an 8.3-magnitude earthquake at the LCSD would be low.[61] Furthermore, if a failure were to occur, water would flow down San Mateo Creek, spread out over portions of San Mateo, and flow into the Marina Lagoon without reaching Foster City. The City of San Mateo's Marina Lagoon Pump Station at the northern end of the Marina Lagoon is capable of moving 750,000 gallons of water per minute out of the lagoon and into San Francisco Bay. The Foster City Public Works Department estimates that a failure of the LCSD would result in a maximum flood height of about 2 feet at the county fairgrounds in the city of San Mateo, located approximately 1 mile west of Foster City. This flood height would be below the crest height (6 feet) of a levee along the Marina Lagoon in Foster City; it is therefore highly improbable that failure of the LCSD would cause inundation of Foster City.[62] Thus, there would be no impact.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? ***(Less-Than-Significant Impact)***

Seiches are not considered a hazard in the Bay based on the natural oscillations of the Bay.[63] Based on a map prepared by the California Geological Survey, the project site is not designated as a tsunami hazard area.[64] As previously discussed, the Foster City Levee Protection Improvements Project would protect the project from the 100-year flood. However, the project site could be inundated by extreme high tides or as a result of sea level rise.

During construction, the project would be required to comply with State and local regulations, as well as COA 2.17, which would ensure that hazardous materials used during construction are properly managed and stored to protect receiving water quality. Therefore, the potential impact related to the release of pollutants during construction as a result of inundation by flood hazard, extreme high tides, or sea level rise would be less than significant.

During project operation, urban pollutants associated with the proposed land uses would include oils, fuels, and metals associated with motor vehicle traffic; fertilizers and pesticides used to maintain landscaped areas; and trash generated by new site occupants. The pollutants that flood waters would encounter on the project site would be similar to the urban pollutants found in the streets and buildings of the urban area surrounding the project site. Even without the occurrence of flooding, such pollutants are carried to the Bay by stormwater runoff from the project site and its vicinity during any storm event large enough to generate overland flows and flows to storm drains. The levels of urban pollutants occurring on the project site would be minimized through compliance with the MRP requirements, as well as applicable COAs (COAs 2.7, 5.9.3, 8.13, and 10.9). For these reasons, the potential for the release of pollutants from the project site to impact the Bay during

60 California Department of Water Resources, Division of Safety of Dams. 2020. Dams Within Jurisdiction of the State of California. September.

61 Foster City, City of. 2016. *Foster City General Plan.* February 1.

62 Ibid.

63 Borrero, J., L. Dengler, B. Uslu, and C. Synolakis. 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*. Report prepared for Marine Facilities Division of the California State Lands Commission. June 8.

64 California Geological Survey. 2021. Tsunami Hazard Area Map, County of San Mateo. March 23.

inundation of the site by flood hazard, extreme high tides, or sea level rise would be less than significant.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? ***(Less-Than-Significant Impact)***

There is currently no approved groundwater management plan for the Santa Clara Valley Groundwater Basin, San Mateo Plain Subbasin, and therefore the project would not conflict with a groundwater management plan.[65] The Basin Plan, which is the Water Quality Control Plan that addresses water quality issues in the region, is the master policy document that establishes the water quality objectives and strategies needed to protect designated beneficial water uses in the San Francisco Bay region.[66] The State Water Board and San Francisco Bay Regional Water Quality Control Board ensure compliance with (and initiate enforcement action when necessary) the water quality goals and objectives of the Basin Plan through the issuance of NPDES permits. As described above, the project's compliance with the Construction General Permit and MRP requirements is additionally enforced through the implementation of the City's COAs. Compliance with these permits would ensure that the project would not have the potential to conflict with the Basin Plan. Therefore, this impact would be less than significant.

65 California Department of Water Resources. 2021. Non-SGMA Groundwater Management. Website: water.ca.gov/Programs/Groundwater-Management/Non-SGMA-Groundwater-Management (accessed June 2021).

66 San Francisco Bay Regional Water Quality Control Board. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).* Incorporating all amendments as of May 4.

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☒	☐	☐	☐
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

a. through b. ***(Potentially Significant Impact)***

The proposed project would result in the development of the site with an R&D office use and associated improvements. To allow development of the proposed project, a General Development Plan Amendment and a Use Permit would be required. Therefore, the proposed project could result in a conflict with policies and regulations in the existing General Plan and Zoning Ordinance that were adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, the criteria identified above for topics 3.11.a through 3.11.b will be evaluated in the EIR.

3.12 MINERAL RESOURCES

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

*a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? **(No Impact)***

The California Geological Survey has determined that the City does not contain any significant mineral deposits.[67] Therefore, there are no known mineral resources within or in the vicinity of the project site. The proposed project would not result in the loss of availability of a known mineral resource of value to the region or residents of the State. Therefore, the proposed project would have no impact.

*b. Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? **(No Impact)***

Refer to Section 3.12.a, above. The proposed project would not result in the loss of availability of any known locally-important mineral resource recovery sites. Therefore, the proposed project would have no impact.

[67] California Geological Survey. 2018. California's Non-Fuel Mineral Production. Website: www.conservation.ca.gov/cgs/minerals/mineral-production (accessed June 2021).

3.13 NOISE

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

a. through c. ***(Potentially Significant Impact)***

The proposed project could result in the generation of a substantial temporary increase in ambient noise levels as a result of construction activities on the project site. In addition, construction of the proposed project could result in the generation of excessive groundborne vibration at adjacent properties. The project would also increase vehicle trips within the vicinity, which could in turn result in an increase in the ambient noise environment. Therefore, the criteria identified above for topics 3.13.a through 3.13.c, including operation period noise impacts will be evaluated in the EIR.

3.14 POPULATION AND HOUSING

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

*a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? **(Less-Than-Significant Impact)***

The proposed project does not include housing, and therefore would not directly induce population growth on the project site through the introduction of new residents on the site. In addition, the project site is located within an urban area and is currently developed. Introducing new R&D and office uses to an infill site would not result in an extension of infrastructure beyond that which is needed to serve the proposed project or expand roadway capacity within the site's vicinity.

As previously described, the proposed project would result in the addition of approximately 213 new employees on the project site. New job opportunities in the City could cause future employees to move to Foster City solely for reasons of employment. In 2018, the year for which the most recent data is available, an estimated 7.9 percent of the employed people in Foster City also lived within the city, while the other 92.1 percent lived elsewhere in the Bay Area.[68] Consistent with this ratio, the proposed project would result in approximately 17 employees that could live in Foster City. Assuming that these employees would not be existing Foster City residents, the proposed project could potentially increase demand for housing in Foster City by 17 units. However, this determination is likely an overestimate, as new jobs created would reasonably be expected to attract existing City residents due to lifestyle advantages and shortened commutes. Additionally, employees would likely commute from various communities throughout the Bay Area due to the proximity of SR 92 and US 101. Furthermore, with a total construction duration of approximately 17 months, it is unlikely that construction workers would relocate to Foster City due to this individual project. Therefore, the proposed project would not directly or indirectly induce substantial population growth on the site or in the surrounding area through the increase in employment on the site, and this impact would be less than significant.

[68] United States Census Bureau, Center for Economic Studies. 2018. OnTheMap: Inflow/Outflow Analysis for Foster City. Website: onthemap.ces.census.gov (accessed June 2021).

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? ***(No Impact)***

As previously discussed, the project site is currently occupied by a vacant commercial building. Therefore, demolition of this structure would not displace any people or housing, and there would be no impact.

3.15 PUBLIC SERVICES

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

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

i. Fire protection?
ii. Police protection? ***(Potentially Significant Impact)***

As described previously, it is anticipated that the proposed project would result in approximately 213 new employees on the project site. This increase in daytime population would result in an increased demand for fire and police services in the City. In addition, the proposed project would result in a change in use on the project site from a restaurant use to office and laboratory. As discussed previously, the laboratory use would require the use and transport of potentially hazardous materials, and therefore could result in an increased need for emergency services resulting from potential accidents. Therefore, the criteria identified above for topics 3.15.a.i through 3.15.a.ii will be evaluated in the EIR.

iii. Schools?
iv. Parks?
v. Other public facilities? ***(Less-Than-Significant Impact)***

Schools. The San Mateo-Foster City School District (SMFCSD) operates 21 schools, including 15 public elementary schools (grades K-5), three public middle schools (grades 6-8), and three public K-8 schools.[69] The San Mateo Union High School District (SMUHSD) operates seven high schools, including Hillsdale High School and San Mateo High School, which students within Foster City would attend. The proposed project does not include any residential uses, and would not directly affect

[69] San Mateo-Foster City School District. 2021. District Profile. Website: www.smfcsd.net/en/about-smfcsd/about-smfcsd.html (accessed June 2021).

student population. As previously discussed in Section 3.14, a fraction of employees may move to Foster City solely for employment, but this growth would only result in an incremental increase in student population, and may be spread amongst the whole school district, depending upon place of residence.

Senate Bill 50 (SB50), which revised the existing limitation on developer fees for school facilities, was enacted as urgency legislation that became effective on November 4, 1998, as a result of the California voters approving a bond measure (Proposition 1A). SB50 established a 1998 base amount of allowable developer fees (Level One fee) for residential construction (subject to adjustment) and prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess or in addition to those provided in the statute.

Projects located in Foster City pay a combined school impact fee to both the SMFCSD and SMUHSD. As of July 2021, a school impact fee for new commercial space is $0.66 per square foot. The proposed project would be required to pay this fee. The SMFCSD and SMUHSD are responsible for implementing the specific methods for mitigating school impacts under the Government Code. These fees would be directed towards maintaining adequate service levels, which would ensure that any impact to schools that could result from the proposed project would be offset by development fees, and in effect, reduce potential impacts to a less-than-significant level.

Parks. The closest park to the project site is the small VPCA park immediately to the south. This park includes a walking path, small plaza with benches, and landscaped drainage areas and a small lawn. A number of City-owned parks are located within the vicinity of the project site, including Leo J. Ryan Park, Erckenbrack Park, Gull Park, Killdeer Park, Boat Park, Catamaran Park, Edgewater Park, Mariners Island Park, and Baywinds Park. Additionally, a portion of the San Francisco Bay Trail runs along the shoreline of the San Francisco Bay north of the project site.

Development of the proposed project could increase the use of these parks as well as other parks within the City and within the region as project employees and visitors may access these facilities. However, this increase is expected to be incremental due to the absence of residential uses as part of the proposed project and is not expected to adversely affect the physical conditions of local and regional open space areas or recreational facilities, or require the provision of new parks of facilities in order to meet established service goals. Therefore, although the proposed project would be expected to increase use at surrounding parks, particularly the adjacent VPCA park as employees may use this area during their breaks, this increase is not expected to require the need for new or physically altered recreational facilities. Further, the proposed project includes on-site open space that would also be utilized by employees, further off-setting the small increase in use of nearby parks. Although access to a small portion of the VPCA park could be temporarily obstructed during project construction, the majority of the park would remain open and full access would be restored after project completion. Therefore, this impact would be less than significant.

Other Public Facilities. Development of the project is unlikely to increase the demand for other public services, including libraries, community centers, and public health care facilities, because no direct population growth would occur. Therefore, the proposed project is not expected to substantially increase the usage of these facilities, such that new facilities would be needed to maintain service standards and this impact would be less than significant.

3.16 RECREATION

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

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ***(Less-Than-Significant Impact)***

As discussed in Section 3.15, project employees and visitors to the project site would be expected to use local parks and community facilities in the vicinity as well as regional recreational facilities. Although new employees and visitors associated with the proposed project could incrementally increase the use of these facilities, this minor increase in use is not expected to result in substantial physical deterioration of local parks, trails, and community centers and this impact would be less than significant.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? ***(No Impact)***

The proposed project would consist of the redevelopment of the project site with R&D and office uses. The proposed project does not include or require the construction or expansion of existing public recreational facilities. Therefore, development of the proposed project and associated recreational opportunities for use by project occupants would not result in additional environmental effects beyond those described in this document.

3.17 TRANSPORTATION

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

a. through d. ***(Potentially Significant Impact)***

The proposed project could result in an increase in vehicular traffic that could in turn result in a conflict with a program, plan, ordinance, or policy addressing the circulation system. In addition, the proposed project would result in changes to site access and circulation, and therefore could increase hazards due to geometric design features or inadequate emergency access. Therefore, the criteria identified above for topics 3.17.a through 3.17.d will be evaluated in the EIR.

A transportation analysis will be prepared for the proposed project and will be included in the EIR. The EIR is currently anticipated to include an analysis of four intersections, as follows:

1. Chess Drive/SR 92 Westbound Ramps
2. Chess Drive/Foster City Boulevard
3. Metro Center Boulevard/Shell Boulevard
4. Metro Center Boulevard/SR 92 Eastbound Ramps

The vehicle miles traveled (VMT) generated by the proposed project will be estimated to compare with regional VMT. The City has not adopted a VMT threshold, and therefore a project-specific threshold will be established. The transportation analysis will also consider impacts related to vehicular, bicycle, pedestrian, and transit facilities as well as an evaluation of design hazards or potentially incompatible uses.

3.18 TRIBAL CULTURAL RESOURCES

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

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

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

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

AB 52 provides for consultation between lead agencies and Native American tribal organizations during the CEQA process. Prior to the release of an Environmental Impact Report or Negative Declaration/Mitigated Negative Declaration for public review, a lead agency must provide the opportunity to consult with local tribes.

A request form describing the project and map depicting the project site was sent to the NAHC in West Sacramento requesting a list of tribes eligible to consult with the City, pursuant to Public Resources Code section 21080.3.1. On July 6, 2021, the NAHC responded in a letter with a list of tribal contacts. The City sent letters to these individuals via certified mail on July 12, 2021, notifying

them of their opportunity to consult for this project. No requests for consultation have been received to date. The consultation process and its conclusion will be further discussed in the EIR.

3.19 UTILITIES AND SERVICE SYSTEMS

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

a. through e. ***(Potentially Significant Impact)***

The project site is currently served by water, wastewater, solid waste disposal, and other utilities. The proposed project would result in an increase in the demand for each of these services and could require the installation of new infrastructure both on and off the project site. Therefore, the criteria identified above for topics 3.19.a through 3.19.e will be evaluated in the EIR. In addition, a Water Supply Assessment will be prepared and will be discussed in the EIR.

3.20 WILDFIRE

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

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? ***(Less-Than-Significant Impact)***

The project site and adjacent areas are not located in a Very High Fire Hazard Severity Zone and the project site is not located within any State responsibility areas (SRA) for fire service.[70] Therefore, the proposed project would not impair the implementation of, or physically interfere with, any adopted emergency response plan. Therefore, this impact would be less than significant.

b. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? ***(Less-Than-Significant Impact)***

Refer to Section 3.20.a. Additionally, as noted in Section 1.0, Project Information, the project is generally level, and is bound by existing development on all sides. Therefore, the proposed project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and this impact would be less than significant.

[70] Foster City, City of. 2016. *Foster City General Plan.* February 1.

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

Refer to Section 3.20.a. The proposed project is not located within an SRA for fire service and is not within a very high fire hazard severity zone. Therefore, the proposed project would not require the installation or maintenance of associated infrastructure, and this impact would be less than significant.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? ***(Less-Than-Significant Impact)***

Refer to Section 3.20.a and 3.20.b. The project site is generally level and is not located within an SRA for fire service or a very high fire hazard severity zone. Therefore, the proposed project would not expose people or structures to significant risks as a result of post-fire slope instability or drainage and runoff changes.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

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

Implementation of COAs 9.10, 9.11, and 9.12 would ensure that potential impacts to historic and archaeological resources that could be uncovered during construction activities would be reduced to a less-than-significant level. Implementation of Mitigation Measures BIO-1 through BIO-2 and COA 8.12 would ensure that potential impacts related to special status species and nesting birds would be reduced to a less-than-significant level. Therefore, with the incorporation of mitigation measures, development of the proposed Project would not: (1) degrade the quality of the environment; (2) substantially reduce the habitat of a fish or wildlife species; (3) cause a fish or wildlife species population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; (5) reduce the number or restrict the range of a rare or endangered plant or animal; or (6) eliminate important examples of the major periods of California history.

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

As discussed throughout this Initial Study, the proposed project could have potentially significant impacts related to aesthetics, air quality, greenhouse gas emissions, hazards and hazardous

materials, land use and planning, noise, public services (fire and police services), transportation, and utilities and service systems, and these topics, along with potential cumulative effects, will be evaluated in an EIR.

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the CEQA Guidelines requires evaluation of potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of "reasonably foreseeable probable future" projects, per CEQA Section 15355. Cumulative impacts can result from a combination of the proposed project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

For the topics "scoped out" in this Initial Study (i.e., not further analyzed in the EIR), the proposed project's impacts would be individually limited and not cumulatively considerable, because the impacts are either temporary in nature (i.e., limited to the construction period) or limited to the project site (i.e., accidental discovery). Additionally, for each of the topics not analyzed in the EIR, the proposed project would have no impacts or less-than-significant impacts, and therefore would not substantially contribute to any potential cumulative impacts for these topics.

When future development proposals are considered by the City, these proposals would undergo environmental review pursuant to CEQA, and when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project conditions of approval, relevant policies and mitigation measures, and the General Plan, and compliance with applicable regulations would ensure that significant impacts would be avoided or otherwise mitigated to less-than-significant levels.

Implementation of these measures would ensure that the impacts of the project and other projects within the vicinity would be below established thresholds of significance and that these impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of project development.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ***(No Impact)***

The proposed project would not result in any environmental effects that would cause substantial direct or indirect adverse effects on human beings and there would be no impact.

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APPENDIX A

CALEEMOD OUTPUT DATA

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

388 Vintage Park Drive Project

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	60.00	1000sqft	2.20	60,000.00	0
Enclosed Parking Structure	198.00	Space	0.00	35,931.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include a 95,931-square-foot, four-story (68-foot-tall) building including life science office use and a ground-level parking garage.

Construction Phase - construction of the proposed project is anticipated to begin in March 2022, last approximately 17 months, and is anticipated to be fully operational late 2023.

Demolition - Approximately 180 tons of demolition waste would be generated by the proposed project.

Vehicle Trips - Default trip generation.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming a 250 kW diesel generator that runs an hour a week for testing.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Water Mitigation - Assuming use of low flow water fixtures.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConstructionPhase	PhaseEndDate	3/16/2023	9/1/2023
tblConstructionPhase	PhaseEndDate	2/16/2023	8/4/2023
tblConstructionPhase	PhaseEndDate	4/1/2022	4/15/2022
tblConstructionPhase	PhaseEndDate	4/14/2022	6/10/2022
tblConstructionPhase	PhaseEndDate	3/2/2023	8/18/2023
tblConstructionPhase	PhaseEndDate	4/6/2022	5/13/2022
tblConstructionPhase	PhaseStartDate	3/3/2023	8/21/2023
tblConstructionPhase	PhaseStartDate	4/15/2022	6/13/2022
tblConstructionPhase	PhaseStartDate	4/7/2022	5/16/2022
tblConstructionPhase	PhaseStartDate	2/17/2023	8/7/2023
tblConstructionPhase	PhaseStartDate	4/2/2022	4/18/2022
tblGrading	AcresOfGrading	20.00	6.00
tblGrading	AcresOfGrading	30.00	4.50
tblLandUse	LandUseSquareFeet	79,200.00	35,931.00
tblLandUse	LotAcreage	1.38	2.20
tblLandUse	LotAcreage	1.78	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	52.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1994	1.7066	1.5299	3.0700e-003	0.0979	0.0777	0.1756	0.0422	0.0736	0.1158	0.0000	264.3377	264.3377	0.0510	4.1500e-003	266.8508
2023	0.4669	1.1654	1.2472	2.4800e-003	0.0298	0.0505	0.0803	8.1200e-003	0.0483	0.0565	0.0000	211.4789	211.4789	0.0340	4.0900e-003	213.5461
Maximum	**0.4669**	**1.7066**	**1.5299**	**3.0700e-003**	**0.0979**	**0.0777**	**0.1756**	**0.0422**	**0.0736**	**0.1158**	**0.0000**	**264.3377**	**264.3377**	**0.0510**	**4.1500e-003**	**266.8508**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1052	2.2247	1.6933	3.0700e-003	0.0607	0.0807	0.1414	0.0235	0.0807	0.1042	0.0000	264.3374	264.3374	0.0510	4.1500e-003	266.8505
2023	0.4064	1.7034	1.3463	2.4800e-003	0.0298	0.0671	0.0969	8.1200e-003	0.0671	0.0752	0.0000	211.4787	211.4787	0.0340	4.0900e-003	213.5459
Maximum	**0.4064**	**2.2247**	**1.6933**	**3.0700e-003**	**0.0607**	**0.0807**	**0.1414**	**0.0235**	**0.0807**	**0.1042**	**0.0000**	**264.3374**	**264.3374**	**0.0510**	**4.1500e-003**	**266.8505**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**23.22**	**-36.77**	**-9.45**	**0.00**	**29.15**	**-15.31**	**6.89**	**37.15**	**-21.12**	**-4.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-7-2022**	**6-6-2022**	0.5686	0.6579
2	**6-7-2022**	**9-6-2022**	0.5645	0.7041
3	**9-7-2022**	**12-6-2022**	0.5708	0.7181
4	**12-7-2022**	**3-6-2023**	0.5340	0.7057
5	**3-7-2023**	**6-6-2023**	0.5323	0.7181
6	**6-7-2023**	**9-6-2023**	0.6631	0.8159
		Highest	0.6631	0.8159

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2689	2.0000e-005	2.3700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.6100e-003	4.6100e-003	1.0000e-005	0.0000	4.9100e-003
Energy	7.9500e-003	0.0723	0.0607	4.3000e-004		5.4900e-003	5.4900e-003		5.4900e-003	5.4900e-003	0.0000	137.3695	137.3695	0.0110	2.5900e-003	138.4174
Mobile	0.2305	0.2678	2.1840	4.5100e-003	0.4696	3.3600e-003	0.4729	0.1255	3.1300e-003	0.1286	0.0000	419.9358	419.9358	0.0277	0.0203	426.6696
Stationary	0.0143	0.0400	0.0365	7.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	6.6335	6.6335	9.3000e-004	0.0000	6.6567
Waste						0.0000	0.0000		0.0000	0.0000	0.9256	0.0000	0.9256	0.0547	0.0000	2.2932
Water						0.0000	0.0000		0.0000	0.0000	9.3595	14.7699	24.1294	0.9637	0.0230	55.0724
Total	**0.5216**	**0.3800**	**2.2835**	**5.0100e-003**	**0.4696**	**0.0110**	**0.4805**	**0.1255**	**0.0107**	**0.1362**	**10.2852**	**578.7133**	**588.9985**	**1.0580**	**0.0459**	**629.1143**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2689	2.0000e-005	2.3700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.6100e-003	4.6100e-003	1.0000e-005	0.0000	4.9100e-003
Energy	7.9500e-003	0.0723	0.0607	4.3000e-004		5.4900e-003	5.4900e-003		5.4900e-003	5.4900e-003	0.0000	137.3695	137.3695	0.0110	2.5900e-003	138.4174
Mobile	0.2305	0.2678	2.1840	4.5100e-003	0.4696	3.3600e-003	0.4729	0.1255	3.1300e-003	0.1286	0.0000	419.9358	419.9358	0.0277	0.0203	426.6696
Stationary	0.0143	0.0400	0.0365	7.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	6.6335	6.6335	9.3000e-004	0.0000	6.6567
Waste						0.0000	0.0000		0.0000	0.0000	0.2314	0.0000	0.2314	0.0137	0.0000	0.5733
Water						0.0000	0.0000		0.0000	0.0000	7.4876	11.8159	19.3035	0.7710	0.0184	44.0579
Total	**0.5216**	**0.3800**	**2.2835**	**5.0100e-003**	**0.4696**	**0.0110**	**0.4805**	**0.1255**	**0.0107**	**0.1362**	**7.7190**	**575.7593**	**583.4784**	**0.8242**	**0.0413**	**616.3799**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.95**	**0.51**	**0.94**	**22.09**	**10.03**	**2.02**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/7/2022	4/15/2022	5	30	
2	Site Preparation	Site Preparation	4/18/2022	5/13/2022	5	20	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	Grading	Grading	5/16/2022	6/10/2022	5	20	
4	Building Construction	Building Construction	6/13/2022	8/4/2023	5	300	
5	Paving	Paving	8/7/2023	8/18/2023	5	10	
6	Architectural Coating	Architectural Coating	8/21/2023	9/1/2023	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 90,000; Non-Residential Outdoor: 30,000; Striped Parking Area: 2,156 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	34.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9300e-003	0.0000	1.9300e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0253	0.2493	0.2094	3.6000e-004		0.0126	0.0126		0.0117	0.0117	0.0000	31.6165	31.6165	8.0600e-003	0.0000	31.8180
Total	**0.0253**	**0.2493**	**0.2094**	**3.6000e-004**	**1.9300e-003**	**0.0126**	**0.0145**	**2.9000e-004**	**0.0117**	**0.0120**	**0.0000**	**31.6165**	**31.6165**	**8.0600e-003**	**0.0000**	**31.8180**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.5500e-003	3.3000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5642	0.5642	2.0000e-005	9.0000e-005	0.5913
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.6600e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2393	1.2393	4.0000e-005	4.0000e-005	1.2509
Total	**5.8000e-004**	**1.9400e-003**	**4.9900e-003**	**2.0000e-005**	**1.6900e-003**	**2.0000e-005**	**1.7200e-003**	**4.5000e-004**	**2.0000e-005**	**4.8000e-004**	**0.0000**	**1.8034**	**1.8034**	**6.0000e-005**	**1.3000e-004**	**1.8421**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7000e-004	0.0000	8.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.3181	0.2312	3.6000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	31.6165	31.6165	8.0600e-003	0.0000	31.8179
Total	**0.0133**	**0.3181**	**0.2312**	**3.6000e-004**	**8.7000e-004**	**0.0108**	**0.0116**	**1.3000e-004**	**0.0108**	**0.0109**	**0.0000**	**31.6165**	**31.6165**	**8.0600e-003**	**0.0000**	**31.8179**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.5500e-003	3.3000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5642	0.5642	2.0000e-005	9.0000e-005	0.5913
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.6600e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2393	1.2393	4.0000e-005	4.0000e-005	1.2509
Total	**5.8000e-004**	**1.9400e-003**	**4.9900e-003**	**2.0000e-005**	**1.6900e-003**	**2.0000e-005**	**1.7200e-003**	**4.5000e-004**	**2.0000e-005**	**4.8000e-004**	**0.0000**	**1.8034**	**1.8034**	**6.0000e-005**	**1.3000e-004**	**1.8421**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.1567	0.1006	2.5000e-004		5.9500e-003	5.9500e-003		5.4800e-003	5.4800e-003	0.0000	21.5471	21.5471	6.9700e-003	0.0000	21.7213
Total	**0.0138**	**0.1567**	**0.1006**	**2.5000e-004**	**2.3900e-003**	**5.9500e-003**	**8.3400e-003**	**2.6000e-004**	**5.4800e-003**	**5.7400e-003**	**0.0000**	**21.5471**	**21.5471**	**6.9700e-003**	**0.0000**	**21.7213**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.9100e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5084	0.5084	2.0000e-005	1.0000e-005	0.5132
Total	**2.2000e-004**	**1.6000e-004**	**1.9100e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5084**	**0.5084**	**2.0000e-005**	**1.0000e-005**	**0.5132**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6200e-003	0.2002	0.1364	2.5000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	21.5470	21.5470	6.9700e-003	0.0000	21.7213
Total	**6.6200e-003**	**0.2002**	**0.1364**	**2.5000e-004**	**1.0700e-003**	**4.9900e-003**	**6.0600e-003**	**1.2000e-004**	**4.9900e-003**	**5.1100e-003**	**0.0000**	**21.5470**	**21.5470**	**6.9700e-003**	**0.0000**	**21.7213**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.9100e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5084	0.5084	2.0000e-005	1.0000e-005	0.5132
Total	**2.2000e-004**	**1.6000e-004**	**1.9100e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5084**	**0.5084**	**2.0000e-005**	**1.0000e-005**	**0.5132**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0634	0.0000	0.0634	0.0335	0.0000	0.0335	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0154	0.1698	0.0922	2.1000e-004		7.4200e-003	7.4200e-003		6.8300e-003	6.8300e-003	0.0000	18.1027	18.1027	5.8500e-003	0.0000	18.2491
Total	**0.0154**	**0.1698**	**0.0922**	**2.1000e-004**	**0.0634**	**7.4200e-003**	**0.0708**	**0.0335**	**6.8300e-003**	**0.0403**	**0.0000**	**18.1027**	**18.1027**	**5.8500e-003**	**0.0000**	**18.2491**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.0000e-004	2.3900e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6355	0.6355	2.0000e-005	2.0000e-005	0.6415
Total	**2.7000e-004**	**2.0000e-004**	**2.3900e-003**	**1.0000e-005**	**7.9000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6355**	**0.6355**	**2.0000e-005**	**2.0000e-005**	**0.6415**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0285	0.0000	0.0285	0.0151	0.0000	0.0151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2600e-003	0.1811	0.1215	2.1000e-004		4.8500e-003	4.8500e-003		4.8500e-003	4.8500e-003	0.0000	18.1027	18.1027	5.8500e-003	0.0000	18.2491
Total	**6.2600e-003**	**0.1811**	**0.1215**	**2.1000e-004**	**0.0285**	**4.8500e-003**	**0.0334**	**0.0151**	**4.8500e-003**	**0.0199**	**0.0000**	**18.1027**	**18.1027**	**5.8500e-003**	**0.0000**	**18.2491**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.0000e-004	2.3900e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6355	0.6355	2.0000e-005	2.0000e-005	0.6415
Total	**2.7000e-004**	**2.0000e-004**	**2.3900e-003**	**1.0000e-005**	**7.9000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6355**	**0.6355**	**2.0000e-005**	**2.0000e-005**	**0.6415**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1345	1.0588	1.0406	1.8100e-003		0.0509	0.0509		0.0488	0.0488	0.0000	150.5681	150.5681	0.0291	0.0000	151.2943
Total	**0.1345**	**1.0588**	**1.0406**	**1.8100e-003**		**0.0509**	**0.0509**		**0.0488**	**0.0488**	**0.0000**	**150.5681**	**150.5681**	**0.0291**	**0.0000**	**151.2943**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e-003	0.0648	0.0189	2.5000e-004	7.6100e-003	6.7000e-004	8.2800e-003	2.2000e-003	6.4000e-004	2.8400e-003	0.0000	23.8905	23.8905	5.2000e-004	3.5400e-003	24.9591
Worker	6.7700e-003	4.8800e-003	0.0590	1.7000e-004	0.0195	1.1000e-004	0.0196	5.1800e-003	1.0000e-004	5.2800e-003	0.0000	15.6654	15.6654	4.9000e-004	4.5000e-004	15.8123
Total	**9.2500e-003**	**0.0697**	**0.0778**	**4.2000e-004**	**0.0271**	**7.8000e-004**	**0.0279**	**7.3800e-003**	**7.4000e-004**	**8.1200e-003**	**0.0000**	**39.5559**	**39.5559**	**1.0100e-003**	**3.9900e-003**	**40.7714**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0687	1.4534	1.1171	1.8100e-003		0.0593	0.0593		0.0593	0.0593	0.0000	150.5679	150.5679	0.0291	0.0000	151.2941
Total	**0.0687**	**1.4534**	**1.1171**	**1.8100e-003**		**0.0593**	**0.0593**		**0.0593**	**0.0593**	**0.0000**	**150.5679**	**150.5679**	**0.0291**	**0.0000**	**151.2941**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e-003	0.0648	0.0189	2.5000e-004	7.6100e-003	6.7000e-004	8.2800e-003	2.2000e-003	6.4000e-004	2.8400e-003	0.0000	23.8905	23.8905	5.2000e-004	3.5400e-003	24.9591
Worker	6.7700e-003	4.8800e-003	0.0590	1.7000e-004	0.0195	1.1000e-004	0.0196	5.1800e-003	1.0000e-004	5.2800e-003	0.0000	15.6654	15.6654	4.9000e-004	4.5000e-004	15.8123
Total	**9.2500e-003**	**0.0697**	**0.0778**	**4.2000e-004**	**0.0271**	**7.8000e-004**	**0.0279**	**7.3800e-003**	**7.4000e-004**	**8.1200e-003**	**0.0000**	**39.5559**	**39.5559**	**1.0100e-003**	**3.9900e-003**	**40.7714**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1328	1.0559	1.1016	1.9400e-003		0.0476	0.0476		0.0456	0.0456	0.0000	160.9691	160.9691	0.0304	0.0000	161.7301
Total	**0.1328**	**1.0559**	**1.1016**	**1.9400e-003**		**0.0476**	**0.0476**		**0.0456**	**0.0456**	**0.0000**	**160.9691**	**160.9691**	**0.0304**	**0.0000**	**161.7301**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3200e-003	0.0551	0.0173	2.5000e-004	8.1400e-003	3.2000e-004	8.4600e-003	2.3500e-003	3.1000e-004	2.6600e-003	0.0000	24.4770	24.4770	5.0000e-004	3.6200e-003	25.5686
Worker	6.7400e-003	4.6200e-003	0.0584	1.8000e-004	0.0208	1.1000e-004	0.0209	5.5400e-003	1.0000e-004	5.6400e-003	0.0000	16.3185	16.3185	4.7000e-004	4.5000e-004	16.4637
Total	**8.0600e-003**	**0.0598**	**0.0757**	**4.3000e-004**	**0.0290**	**4.3000e-004**	**0.0294**	**7.8900e-003**	**4.1000e-004**	**8.3000e-003**	**0.0000**	**40.7956**	**40.7956**	**9.7000e-004**	**4.0700e-003**	**42.0322**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0734	1.5536	1.1941	1.9400e-003		0.0634	0.0634		0.0634	0.0634	0.0000	160.9689	160.9689	0.0304	0.0000	161.7300
Total	**0.0734**	**1.5536**	**1.1941**	**1.9400e-003**		**0.0634**	**0.0634**		**0.0634**	**0.0634**	**0.0000**	**160.9689**	**160.9689**	**0.0304**	**0.0000**	**161.7300**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3200e-003	0.0551	0.0173	2.5000e-004	8.1400e-003	3.2000e-004	8.4600e-003	2.3500e-003	3.1000e-004	2.6600e-003	0.0000	24.4770	24.4770	5.0000e-004	3.6200e-003	25.5686
Worker	6.7400e-003	4.6200e-003	0.0584	1.8000e-004	0.0208	1.1000e-004	0.0209	5.5400e-003	1.0000e-004	5.6400e-003	0.0000	16.3185	16.3185	4.7000e-004	4.5000e-004	16.4637
Total	**8.0600e-003**	**0.0598**	**0.0757**	**4.3000e-004**	**0.0290**	**4.3000e-004**	**0.0294**	**7.8900e-003**	**4.1000e-004**	**8.3000e-003**	**0.0000**	**40.7956**	**40.7956**	**9.7000e-004**	**4.0700e-003**	**42.0322**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8179
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4000e-003**	**0.0431**	**0.0584**	**9.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.6600e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4645	0.4645	1.0000e-005	1.0000e-005	0.4686
Total	**1.9000e-004**	**1.3000e-004**	**1.6600e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4645**	**0.4645**	**1.0000e-005**	**1.0000e-005**	**0.4686**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6700e-003	0.0781	0.0649	9.0000e-005		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6700e-003**	**0.0781**	**0.0649**	**9.0000e-005**		**2.7900e-003**	**2.7900e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8178**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.6600e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4645	0.4645	1.0000e-005	1.0000e-005	0.4686
Total	**1.9000e-004**	**1.3000e-004**	**1.6600e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4645**	**0.4645**	**1.0000e-005**	**1.0000e-005**	**0.4686**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3204					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.3213**	**6.5100e-003**	**9.0600e-003**	**1.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	7.8000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2168	0.2168	1.0000e-005	1.0000e-005	0.2187
Total	**9.0000e-005**	**6.0000e-005**	**7.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2168**	**0.2168**	**1.0000e-005**	**1.0000e-005**	**0.2187**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3204					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	0.0118	9.1600e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.3209**	**0.0118**	**9.1600e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.8000e-004**	**4.8000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	7.8000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2168	0.2168	1.0000e-005	1.0000e-005	0.2187
Total	**9.0000e-005**	**6.0000e-005**	**7.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2168**	**0.2168**	**1.0000e-005**	**1.0000e-005**	**0.2187**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2305	0.2678	2.1840	4.5100e-003	0.4696	3.3600e-003	0.4729	0.1255	3.1300e-003	0.1286	0.0000	419.9358	419.9358	0.0277	0.0203	426.6696
Unmitigated	0.2305	0.2678	2.1840	4.5100e-003	0.4696	3.3600e-003	0.4729	0.1255	3.1300e-003	0.1286	0.0000	419.9358	419.9358	0.0277	0.0203	426.6696

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Research & Development	675.60	114.00	66.60	1,274,105	1,274,105
Total	675.60	114.00	66.60	1,274,105	1,274,105

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Research & Development	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.7006	58.7006	9.5000e-003	1.1500e-003	59.2810
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.7006	58.7006	9.5000e-003	1.1500e-003	59.2810
NaturalGas Mitigated	7.9500e-003	0.0723	0.0607	4.3000e-004		5.4900e-003	5.4900e-003		5.4900e-003	5.4900e-003	0.0000	78.6689	78.6689	1.5100e-003	1.4400e-003	79.1364
NaturalGas Unmitigated	7.9500e-003	0.0723	0.0607	4.3000e-004		5.4900e-003	5.4900e-003		5.4900e-003	5.4900e-003	0.0000	78.6689	78.6689	1.5100e-003	1.4400e-003	79.1364

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	1.4742e+006	7.9500e-003	0.0723	0.0607	4.3000e-004		5.4900e-003	5.4900e-003		5.4900e-003	5.4900e-003	0.0000	78.6689	78.6689	1.5100e-003	1.4400e-003	79.1364
Total		**7.9500e-003**	**0.0723**	**0.0607**	**4.3000e-004**		**5.4900e-003**	**5.4900e-003**		**5.4900e-003**	**5.4900e-003**	**0.0000**	**78.6689**	**78.6689**	**1.5100e-003**	**1.4400e-003**	**79.1364**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	1.4742e+006	7.9500e-003	0.0723	0.0607	4.3000e-004		5.4900e-003	5.4900e-003		5.4900e-003	5.4900e-003	0.0000	78.6689	78.6689	1.5100e-003	1.4400e-003	79.1364
Total		**7.9500e-003**	**0.0723**	**0.0607**	**4.3000e-004**		**5.4900e-003**	**5.4900e-003**		**5.4900e-003**	**5.4900e-003**	**0.0000**	**78.6689**	**78.6689**	**1.5100e-003**	**1.4400e-003**	**79.1364**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	188638	17.4535	2.8200e-003	3.4000e-004	17.6261
Research & Development	445800	41.2471	6.6700e-003	8.1000e-004	41.6550
Total		**58.7006**	**9.4900e-003**	**1.1500e-003**	**59.2810**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	188638	17.4535	2.8200e-003	3.4000e-004	17.6261
Research & Development	445800	41.2471	6.6700e-003	8.1000e-004	41.6550
Total		**58.7006**	**9.4900e-003**	**1.1500e-003**	**59.2810**

6.0 Area Detail

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2689	2.0000e-005	2.3700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.6100e-003	4.6100e-003	1.0000e-005	0.0000	4.9100e-003
Unmitigated	0.2689	2.0000e-005	2.3700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.6100e-003	4.6100e-003	1.0000e-005	0.0000	4.9100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0320					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2367					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.6100e-003	4.6100e-003	1.0000e-005	0.0000	4.9100e-003
Total	**0.2689**	**2.0000e-005**	**2.3700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.6100e-003**	**4.6100e-003**	**1.0000e-005**	**0.0000**	**4.9100e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0320					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2367					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.6100e-003	4.6100e-003	1.0000e-005	0.0000	4.9100e-003
Total	**0.2689**	**2.0000e-005**	**2.3700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.6100e-003**	**4.6100e-003**	**1.0000e-005**	**0.0000**	**4.9100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.3035	0.7710	0.0184	44.0579
Unmitigated	24.1294	0.9637	0.0230	55.0724

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	29.5016 / 0	24.1294	0.9637	0.0230	55.0724
Total		**24.1294**	**0.9637**	**0.0230**	**55.0724**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	23.6013 / 0	19.3035	0.7710	0.0184	44.0579
Total		**19.3035**	**0.7710**	**0.0184**	**44.0579**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2314	0.0137	0.0000	0.5733
Unmitigated	0.9256	0.0547	0.0000	2.2932

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Research & Development	4.56	0.9256	0.0547	0.0000	2.2932
Total		**0.9256**	**0.0547**	**0.0000**	**2.2932**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Research & Development	1.14	0.2314	0.0137	0.0000	0.5733
Total		**0.2314**	**0.0137**	**0.0000**	**0.5733**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	52	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0143	0.0400	0.0365	7.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	6.6335	6.6335	9.3000e-004	0.0000	6.6567
Total	**0.0143**	**0.0400**	**0.0365**	**7.0000e-005**		**2.1000e-003**	**2.1000e-003**		**2.1000e-003**	**2.1000e-003**	**0.0000**	**6.6335**	**6.6335**	**9.3000e-004**	**0.0000**	**6.6567**

11.0 Vegetation

APPENDIX C

TRANSPORTATION IMPACT STUDY

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388 Vintage Park Drive Transportation Impact Assessment

Prepared for:
The City of Foster City

December 14, 2021

SF21-1167

FEHR PEERS

Table of Contents

Appendices

List of Figures

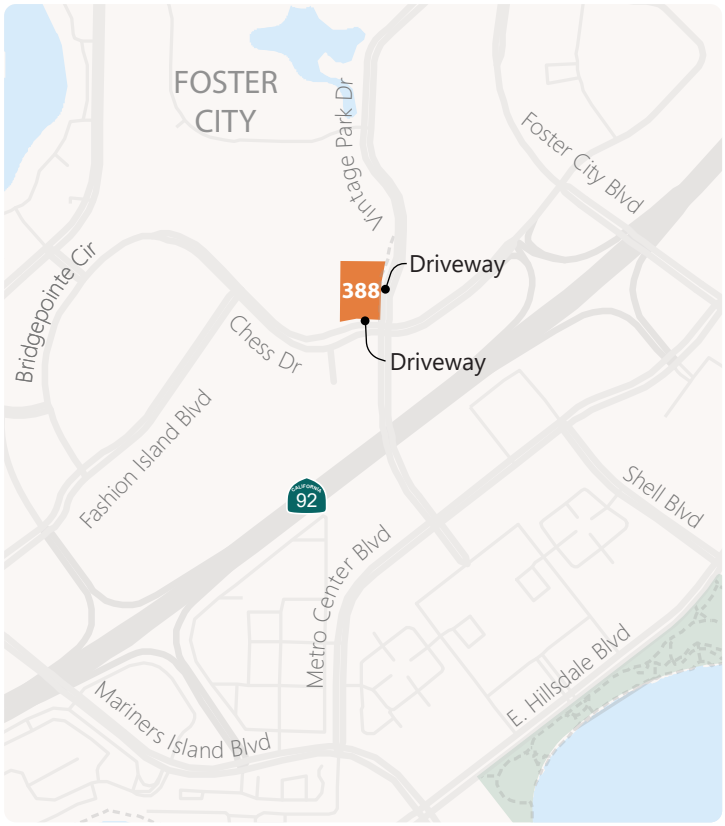
List of Tables

388 Vintage Park Drive

Transportation Impact Executive Summary

FEHR PEERS

Project Overview



This summary depicts the transportation impact analysis findings for **388 Vintage Park Drive** ("the Project"), a new 96,000 sq. ft. life sciences office development in Foster City. Findings for vehicle miles traveled (VMT) and vehicle trips are discussed below.

Project Site Access

TRANSIT

» SamTrans
251 Foster City - Caltrain
256 Hillsdale Mall - Foster City

» AC Transit
Line M - Hayward BART - Hillsdale Mall *(Suspended)*

» Commute.org
Mariners' Island > Belmont Caltrain
North Foster City > Millbrae BART/Caltrain
Lincoln Centre > Belmont Caltrain

BIKE

» Project includes **20** indoor bike parking spaces.

» Bicyclists can access the project site via a bike lane on Vintage Park Drive and a bike route on Chess Drive.

CAR

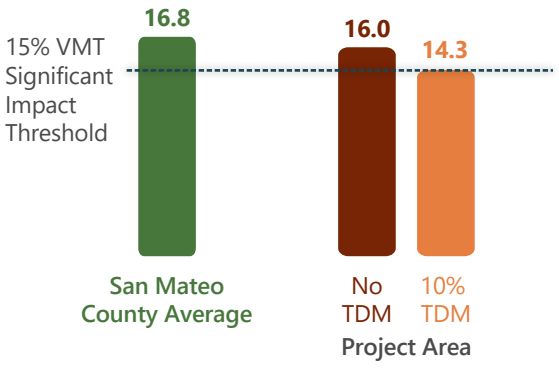
» The Project proposes to provide **210 parking spaces** for an expected daily employee population of **213 people**. This would accommodate peak parking demand.

Transportion Impacts

Vehicle Mile Traveled (VMT)

The Project has proposed a transportation demand management plan that would be effective at reducing 10% of VMT. With its TDM plan, the Project would generate **14.3 VMT per employee** - 10% below the average for San Mateo County and at its significant impact threshold. With this TDM plan, the Project would not have a significant impact on VMT.

Home-Based Work VMT per Employee by Location

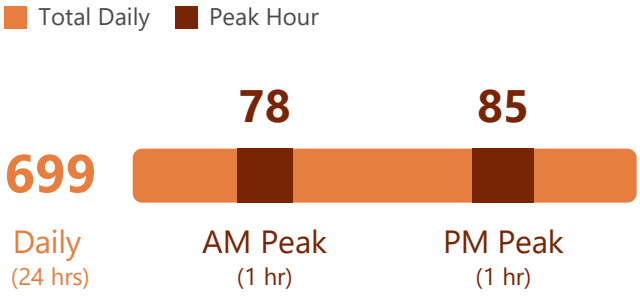


Sources: C/CAG-VTA Bi-County Transportation Demand Model, 2021; Fehr & Peers, 2021

Vehicle Trips

The project would generate an average of **699 vehicle trips** per day. Of those trips, **11%** would occur during the AM peak hour and **12%** would occur during the PM peak hour.

Average Weekday Vehicle Trips



Sources: Fehr & Peers, 2021; ITE Trip Generation Manual, 10th Edition.

Introduction

This transportation impact assessment (TIA) reviews transportation conditions at and adjacent to 388 Vintage Park Drive in the City of Foster City. Conditions are evaluated for the current site without the proposed project, for plus project near-term conditions, and for cumulative 2040 conditions with and without the proposed project. The topics presented herein are intended to disclose the transportation related CEQA impacts and the local transportation effects of the project. These topics include an assessment of vehicle miles traveled, site access and circulation, driveway site distance and vehicle queuing, parking, and hazards and emergency vehicle access. Additionally, an assessment of vehicle level of service is included for informational purposes for consistency with General Plan Policy LUC-F-1. Finally, this TIA presents a summary of the impacts and mitigation measures based on the relevant significance criteria.

Methodology

The study area includes Foster City Boulevard to Mariners Island Boulevard from the east to west and East Third Avenue to East Hillsdale Boulevard from the north to south. Study intersections include the Chess Drive / State Route 92 (SR-92) Westbound Ramps, Chess Drive / Foster City Boulevard, Foster City Boulevard / Metro Center Boulevard, and the Metro Center Boulevard / SR-92 Eastbound Ramps.

Transportation conditions were evaluated for the weekday peak periods of 7:00 to 9:00 AM and 4:00 to 6:00 PM. Due to decreases in commute travel associated with COVID-19, traffic counts are currently lower during the AM and PM peak hour commute periods and traditional field intersection counts are not representative of typical traffic volumes. Therefore, intersection turning movement counts from the Metro Center Hotel Project EIR[1] were used to establish existing conditions representative for a return to pre-COVID-19 travel. This data was collected for morning and evening peak periods in May 2019 on non-holiday weekdays, when local area schools were in normal session. These were supplemented with qualitative notes from a field visit in August 2021.

Descriptions of existing transit service are based on service levels prior to COVID-19 and include descriptions of long-range plans for future service changes like Reimagine SamTrans or the San Mateo County Transit District Shuttle Study. Many service operators continue to run reduced schedules due to the COVID-19 pandemic and have yet to announce firm timelines for the return of pre-COVID service levels.

Based on recent changes to the California Environmental Quality Act (CEQA) guidelines with the implementation of SB 743 and guidance from the OPR, VMT is recommended as the appropriate measure of transportation impacts under CEQA. LOS and other similar vehicle delay or capacity metrics can no longer serve as transportation impact metrics for CEQA analysis. However, per General Plan Policy LUC-F-1, the City of Foster City continues to evaluate LOS analysis for land use development projects through the non-CEQA local transportation analysis.

[1] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.

Project Description

The 388 Vintage Park Drive Project (herein described as "the Project") proposed to construct a 4-story life science office building with a ground-level parking garage. The Project site, as seen in **Figure 1,** is located at 388 Vintage Park Drive in the City of Foster City.

The Project is located on a 2.2 acre parcel with an existing 10,120 square foot vacant commercial building. The Project proposed to demolish the existing building and construct a 95,931 square foot office building. The Project is anticipated to have a daily employee population of 213 people. The Project would include approximately 28,000 square feet of open space and 210 vehicle parking spaces. The site will be accessed via a driveway at the northeast corner of the Project site along Vintage Park Drive and another driveway at the southwest corner of the site along Chess Drive.

The Project has proposed a transportation demand management (TDM) plan that would include transit or ridesharing passes or subsidies, pre-tax transportation benefits, participating in Commute.org (a transportation demand management agency for the County of San Mateo), a carpool or vanpool program, secure bicycle storage, and showers and changing rooms for bicyclists. This plan is described in greater detail in **Appendix C:**.

Study Intersections

Project Site

Figure 1

Project Site & Study Intersections

Existing Transportation Conditions

Transportation topics are discussed in the following order: roadway network, pedestrian facilities, bicycle facilities, transit service, vehicle volumes and lane configurations, intersection level of service, and parking conditions. The Project site and study intersections are shown in **Figure 1**.

Existing Roadway Network

Regional access to the Project site is provided by SR-92 and U.S. 101. Access to SR-92 is provided via interchanges at Chess Drive / Foster City Boulevard / Metro Center Boulevard and Edgewater Boulevard / Mariners Island Boulevard / Fashion Island Boulevard. Access to US 101 is provided via interchanges at East 3rd Avenue and East Hillsdale Boulevard, and with SR-92. Key city streets used for local access include Vintage Park Drive, Chess Drive, Metro Center Boulevard, Foster City Boulevard, Fashion Island Boulevard, Bridgepoint Parkway, Shell Boulevard, East 3rd Avenue, and Mariners Island Boulevard. Speed limits on roadways in the study area range from 25 miles per hour (mph) on local streets to 35–45 mph on arterials. The speed limit is 55 miles per hour on SR-92 and 65 miles per hour on US 101. On-street parking is not allowed on the local roadways within the study area except where noted in the roadway descriptions below.

Regional Highways

SR-92 is a State highway that runs in an east-west direction from Half Moon Bay, near the coast, to Hayward on the east side of San Francisco Bay via the San Mateo Bridge. SR-92 has partial interchanges (hook ramps) with Chess Drive / Foster City Boulevard / Metro Center Boulevard and Edgewater Boulevard / Mariners Island Boulevard / Fashion Island Boulevard. It generally has three travel lanes in each direction east of US 101 and two travel lanes in each direction west of US 101, with auxiliary lanes between interchanges. In 2019, average daily volumes on SR-92 through the study area range from 147,000 vehicles between US 101 and Mariners Island Boulevard to 98,000 vehicles at the San Mateo Bridge.

US 101 is an Interstate freeway that provides regional north-south access along the San Francisco Peninsula. In the vicinity of Foster City, US 101 typically has four travel lanes in each direction with an auxiliary lane between interchanges. Although US 101 does not run directly through Foster City, it provides the primary north-south regional access to the study area via interchanges at SR-92, East Hillsdale Boulevard, and East 3rd Avenue in the City of San Mateo. In 2019, average daily traffic volumes on US 101 through Foster City range from 233,000 vehicles at East Hillsdale Avenue to 263,000 vehicles north of SR-92.

Local Roadways

Vintage Park Drive is four-lane, north-south arterial that extends from Foster City Boulevard to Metro Center Boulevard. It fronts the Project site to the east and provides driveway access to the Project. The speed limit on Vintage Park Drive is 30 miles per hour.

Chess Drive is an arterial that extends eastward from Bridgepointe Parkway past Foster City Boulevard and then curves around to the north and west to intersect with Foster City Boulevard at Vintage Park Drive. Access to westbound SR-92 is provided via hook ramps just west of Foster City Boulevard. Chess Drive is four lanes wide west of Foster City Boulevard and two lanes wide to the east. On-street parking is allowed along Chess Drive to the east of Hatch Drive. It fronts the Project site to the south and provides driveway access to the Project. The speed limit is 30 miles per hour from the San Mateo city limit to Foster City Boulevard, after which the speed limit is 25 miles per hour.

Metro Center Boulevard is a four-lane, east-west arterial that runs parallel to SR-92 south and extends between Edgewater Boulevard and Foster City Boulevard where it becomes Triton Drive. Access to eastbound SR-92 is provided by hook ramps just west of Foster City Boulevard. The speed limit is 35 miles per hour.

Foster City Boulevard is a four- to six-lane arterial that extends from East 3rd Avenue, across SR-92, to Beach Park Boulevard. It is a major north-south arterial in Foster City. On-street parking is allowed along northbound Foster City Boulevard between Bounty Drive and approximately 450 feet south of East Hillsdale Boulevard. The speed limit is 35 miles per hour, except for the segment between East Hillsdale Boulevard and Bounty Drive, where the speed limit is 40 miles per hour.

Fashion Island Boulevard is a four-lane, east-west collector that connects Bridgepoint Circle to 19th Avenue to the west. It has a full access interchange with US 101 in the City of San Mateo. At Bridgepoint Circle, Fashion Island Boulevard continues as Bridgepoint Parkway to the east. The speed limit is 35 miles on Fashion Island Boulevard and is 30 miles per hour on Bridgepoint Parkway.

Shell Boulevard is a four-lane arterial that runs north-south from Metro Center Boulevard to Beach Park Boulevard. The speed limit is 35 miles per hour.

East 3rd Avenue is a four-lane divided arterial that runs in an east-west direction along the San Francisco Bay shoreline north of SR-92. It has a full access interchange with US 101 in the City of San Mateo. The speed limit is 45 miles per hour west of Foster City Boulevard, and 40 miles per hour east of Foster City Boulevard.

Mariners Island Boulevard connects Edgewater Boulevard and SR-92 eastbound ramps on the south end and E 3rd Avenue on the north end. It is a 4-lane collector with raised medians. On-street parking is allowed on the west side of Mariners Island Boulevard between 3rd Avenue and Armada Way. The speed limit is 35 miles per hour.

Existing Pedestrian Facilities

Pedestrian facilities comprise sidewalks, off-street pathways, marked and enhanced crosswalks (mid-block and at intersections), curb ramps, median refuges, and pedestrian-scale lighting. Pedestrian facilities were assessed during a site visit in August 2021. Sidewalks are provided along both sides of all roadways around the Project site, with marked crosswalks and curb ramps at all intersections. Pedestrian signals with pedestrian-activated push buttons are provided at signalized intersections. Medians are often present on the wide boulevards, but median refuge islands are rarely provided for pedestrians.

Figure 2. Sidewalks Adjacent to the Project Site

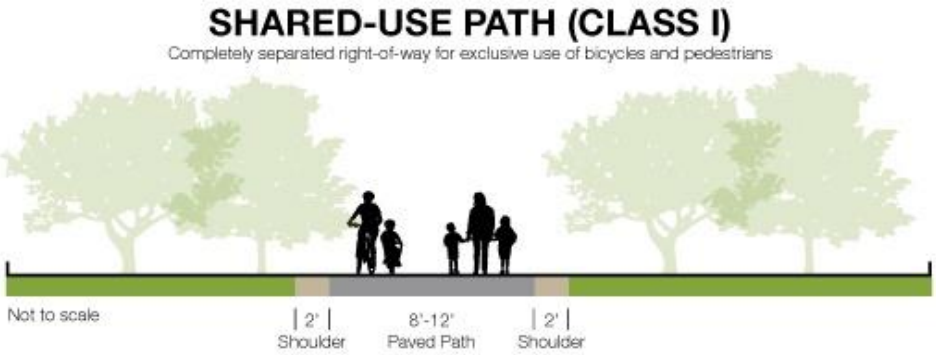
Left: Sidewalks Chess Drive, directly south of the Project site. Right: Sidewalks on Vintage Park Drive facing Chess Drive, to the east of the Project site.

Source: Fehr & Peers, 2021

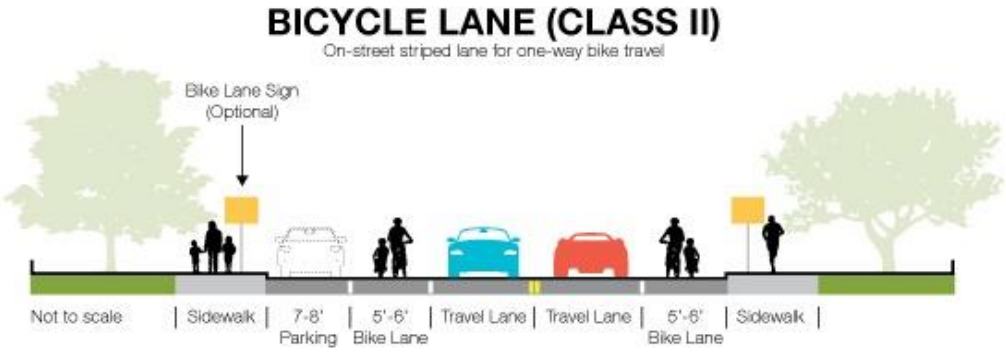
Existing Bicycle Facilities

Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities: Class I, Class II, Class III, and Class IV. These facilities types are described below.

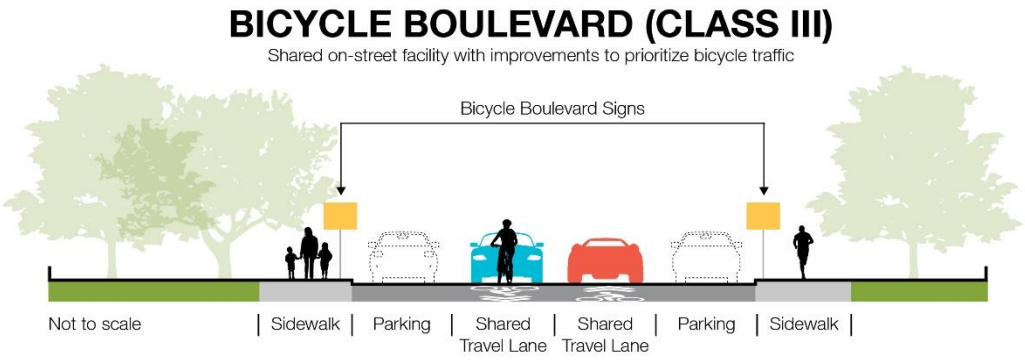
- *Class I Bikeway (Bike Path)* provides a completely separate right-of-way, is designated for the exclusive use of bicycles and pedestrians and minimizes vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed.



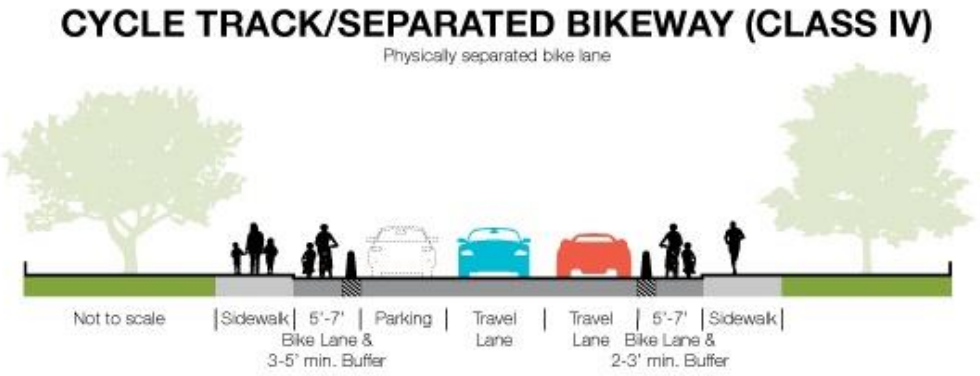
- *Class II Bikeways (Bike Lanes)* are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally five feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. Note that when grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways.



- *Class III Bikeway (Bicycle Routes/Bicycle Boulevards)* are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to a) provide continuity to other bicycle facilities, or b) designate preferred routes through high demand corridors. Bicycle routes are implemented on low-speed (less than 25 mph) and low-volume (less than 3,000 vehicles/day) streets.

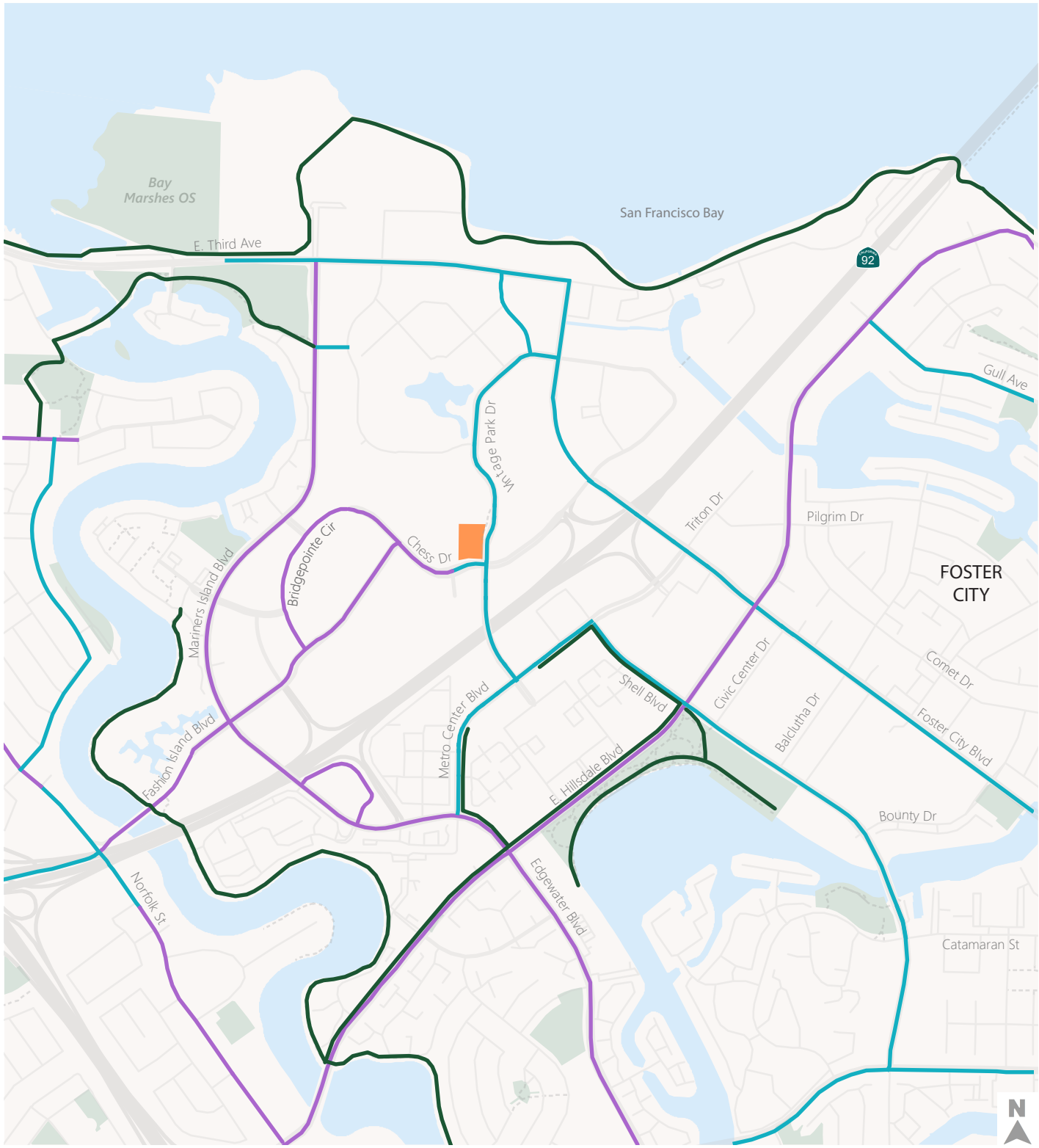


Class IV Bikeway, also known as "cycle tracks" or "protected bike lanes," provide a right-of-way designated exclusively for bicycle travel within a roadway and which are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.



Current bicycle facilities near the Project are shown in **Figure 3**.[2] One bicycle facility provides direct access to the project site: a Class III bike route marked with green sharrows on Vintage Park Drive. Class II bike lanes on Chess Drive in San Mateo to the west of the project site also provide connections to other Class II bike lanes in the study area, including on Bridgepointe Circle, Fashion Island Drive, and Mariners Island Boulevard. Additional Class III bike routes are located on East Third Avenue, Foster City Boulevard, Shell Boulevard, and East Hillsdale Boulevard.

[2] There are currently no unbuilt proposed bicycle facilities in the Project vicinity.



Bicycle Facilites

- Class I - Bike Path
- Class II - Bike Lane
- Class III - Bike Route

Project Site

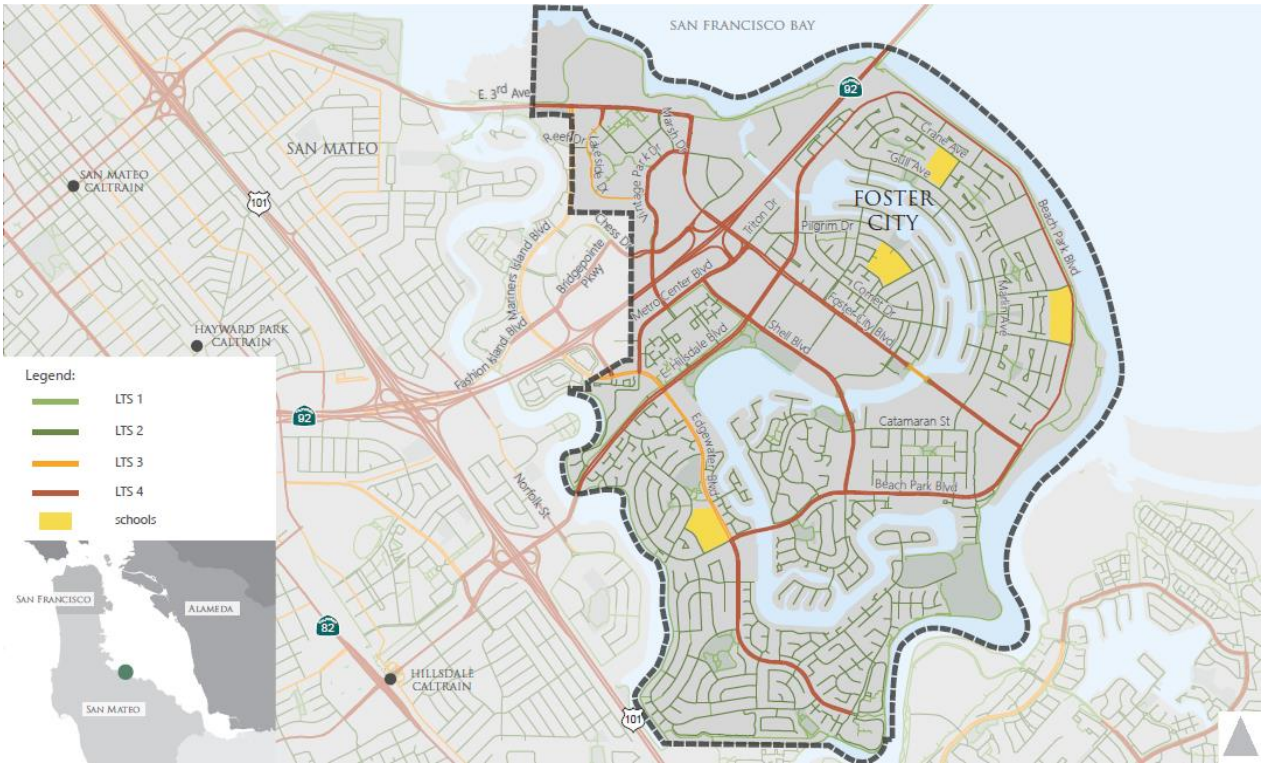
Figure 3

Existing Bicycle Network

However, these bicycle facilities would be ranked as a having a high "Level of Traffic Stress" (LTS).[3] LTS measures bicycling comfort based on roadway characteristics. Low stress bikeways are comfortable for everyone to ride on, including people who would be categorized as "interested but concerned". In contrast, high stress bikeways are only tolerated by a few: primarily those who could be described as "strong and fearless" – those comfortable riding under any conditions (about 7% of the population). Class II or Class II bicycle facilities on roadways with multiple lanes of vehicle traffic and speed limits above 25 miles per hour would be categorized as high stress bikeways.

The bicycle facilities adjacent to the Project site would be categorized as high stress (LTS 4, as shown on **Figure 4**). As such, it would be unlikely that any but the most confident and fearless bicyclists would feel comfortable bicycling to the Project site.

Figure 4. Bicycle Level of Traffic Stress (2017)



Roads rated as LTS 3 or 4 are high level of traffic stress and would feel unsafe for bicycling for most people. The above map represents bicycling conditions in Foster City in 2017, prior to implementation of several recent improvements, such as bike lanes on East Hillsdale Boulevard.

Source: Foster City Bicycle Network Assessment, 2017.

[3] The LTS Methodology was developed by Muerkuria, Furth, and Nixon in *Low Stress Bicycling and Network Connectivity* (2012).

Existing Transit Service

Transit service within Foster City near the Project site is provided by several agencies. San Mateo County Transit District (SamTrans). SamTrans is the primary regional and local transit provider within San Mateo County, serving all rail stations within the County and major transit transfer points for Santa Clara, Alameda, and San Francisco counties. The Bay Area Rapid Transit (BART) and Caltrain rail systems provide regional connections to San Francisco in the north and Santa Clara County in the south. The Peninsula Traffic Congestion Relief Alliance (Commute.org) operates shuttle routes connecting to BART and Caltrain stations. Additionally, Alameda-Contra Costa Transit District (AC Transit) provides bus service from San Mateo County to Alameda County.

Transit service from each of these agencies is described below in **Table 1** and depicted in **Figure 5**. Many service operators continue to run reduced schedules due to the COVID-19 pandemic. The schedule and service information described below reflects pre-COVID-19 timetables, which SamTrans plans to resume when workers resume in-person work.

Several transit agencies are considering major service changes that could alter transit service to Foster City over the next few years. First, SamTrans is currently conducting a comprehensive service revisioning process, named "Reimagine SamTrans". As of August 2021, SamTrans has developed three new potential bus system alternatives and is soliciting community feedback to inform the final proposal. Additionally, the San Mateo County Transit District Shuttle Study is undertaking a comprehensive and holistic analysis of the publicly available first/last mile shuttles serving San Mateo and Santa Clara Counties and includes recommendations for how the shuttle program might be restructured. This could eventually change the shuttle routes operated by Commute.org, which are partially funded through this program.

Table 1: Existing Transit Service

Service Provider	Name/Description	Hours of Operation (Headways) (Pre-COVID-19)	Service Status (July 2021)
SamTrans	251 – Caltrain Connection	11:30 AM – 8:17 PM Weekdays (60 min.) 8:30 AM – 7:20 PM Saturdays (120 min.)	Reduced service
	256 – Caltrain Connection	6:34 AM – 5:25 PM Weekdays (60 min.) 7:30 AM – 8:18 PM Saturdays (120 min.)	Same service
	54 – School Service	7:39 AM – 8:05 AM Weekdays (one bus) 1:50 PM – 3:40 PM Weekdays (six buses)	Suspended
	57 – School Service	6:50 AM – 7:20 AM Weekdays (one bus) 2:10 PM – 4:02 PM Weekdays (two buses)	Suspended
	FCX – Foster City Commuter Express	6:00 AM – 8:00 AM Weekdays (30 min.) 3:30 PM – 6:00 PM Weekdays (30 min.)	Same service
AC Transit	M – Transbay Service	5:57 AM – 6:53 PM Weekdays (40 min.)	Suspended
Commute.org	NFC – North Foster City – Millbrae BART/Caltrain	6:35 AM – 10:02 AM Weekday (30 min.) 4:04 PM – 7:18 PM Weekday (30 min.)	Reduced service
	LC – Foster City – Lincoln Centre Caltrain	7:00 AM – 9:40 AM Weekday (45 min.) 3:08 PM – 7:05 PM Weekday (40 min.)	Reduced service
	MAR – Mariners Island Caltrain	7:00 AM – 10:25 AM Weekday (45 min.) 3:12 PM – 6:39 PM Weekday (45 min.)	Reduced service

Source: Fehr & Peers, 2021.

SamTrans

SamTrans operates Route 251, Route 256, Route 54, Route 57, and Route FCX in Foster City. Route 251 provides a connection between the Hillsdale Shopping Center and Hillsdale Caltrain station in San Mateo, Foster City, and the Bridgepointe Shopping Center in San Mateo. Route 256 operates along the same route as Route 251, but in the opposite direction for the loop within Foster City. Routes 54 and 57 serve the weekday morning and afternoon school commute to/from Bowditch Middle School and Hillsdale High School in San Mateo and Foster City, respectively. Route FCX (Foster City Commuter Express) operates weekday morning service from Foster City to San Francisco and evening service from San Francisco to Foster City. A bus stop on Chess Drive directly south of the Project site serves Routes 251 and 256 traveling in the westbound direction. A bus stop at 3000 Bridgepointe Parkway (500 feet as the crow flies from the Project site, or 0.4 miles walking) serves Routes 251 and 256 traveling in the eastbound direction.

In addition to its traditional bus routes, SamTrans runs paratransit service for persons with disabilities through its Redi-Wheels program. The Foster City Parks & Recreation Department's Senior Express Shuttle also operates on-demand service for Foster City residents who are 50 years of age and above.

AC Transit

AC Transit provides Transbay service between Hayward and San Mateo. Line M operates across the San Mateo Bridge/SR-92 and travels on Foster City Boulevard, Chess Drive, Vintage Park Drive, Metro Center Boulevard, and East Hillsdale Boulevard in Foster City. A bus stop on Vintage Park Drive serves Line M for westbound AM and eastbound PM trips and is located approximately 500 feet north of the Project site. As of June 13, 2021, AC Transit has temporarily suspended the Transbay service Line M in response to the COVID-19 pandemic. The timeline for service return is unknown.

Commute.org Shuttles

The Mariners Island Shuttle provides service between the Hillsdale Caltrain Station and businesses in the San Mateo and Foster City border areas during commute hours, Monday through Friday. The nearest Mariners Island Shuttle stop to the Project site is located about 400 feet east of the Project site.

The North Foster City Shuttle and Lincoln Centre Shuttle also operate in Foster City. The North Foster City Shuttle provides service between the Millbrae Intermodal Station (with BART and Caltrain service) and businesses and office buildings in the North Foster City Area during commute hours, Monday through Friday. The Lincoln Centre Shuttle runs between the Belmont Caltrain Station and businesses in the Lincoln Centre Area in North Foster City. The nearest shuttle stop for both routes is located at Bridgepoint Circle and Bridgepoint Parkway, about 0.2 miles to the west of the Project site.

Both shuttles are currently operated with reduced service relative to pre-COVID service levels. At the present, there is no clear plan for when shuttles will return to pre-COVID service levels.

- Bus or Shuttle Stop
- SamTrans Route
- SamTrans Express Route
- AC Transit Route
- Commute.org Route
- Project Site

Figure 5

Existing Traffic Conditions

Due to decreases in commute travel associated with COVID-19, traffic counts are currently lower during the AM and PM peak hour commute periods and traditional field intersection counts would not be representative of typical peak hour traffic volumes.[4] Therefore, this analysis relies on intersection turning movement counts (including vehicles, bicycles, and pedestrians) as part of the Metro Center Hotel Project EIR[5] to establish existing conditions representative for a return to pre-COVID-19 travel. This data was collected for morning and evening peak periods (7:00 to 9:00 AM and 4:00 to 6:00 PM) in May 2019 on non-holiday weekdays, when local area schools were in normal session. Vehicle volumes were studied for the following intersections:

1. Chess Drive / SR-92 Westbound Ramps
2. Chess Drive / Foster City Boulevard
3. Foster City Boulevard / Metro Center Boulevard
4. Metro Center Boulevard / SR-92 Eastbound Ramps

Traffic Operations Analysis Methodology

The evaluation of traffic conditions on local streets involves an analysis of intersection operations, as intersections represent the locations where the roadway capacity is most constrained. Intersection and freeway mainline segment operations were evaluated with level of service (LOS) calculations. Level of service is a qualitative description of operations ranging from LOS A, when the roadway facility has excess capacity and vehicles experience little or no delay, to LOS F, where the volume of vehicles exceeds the capacity resulting in long queues and excessive delays. Typically, LOS E represents "at-capacity" conditions and LOS F represents "over-capacity" conditions. At signalized intersections operating at LOS F, for example, drivers may have to wait through multiple signal cycles prior to making intended traffic movements. LOS criteria and average delay are summarized in **Table 2**.

[4] A site visit to the Project site and study intersections in early August 2021 found that traffic conditions were still at reduced levels compared to May 2019.

[5] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.

Table 2: Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 and ≤ 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 and ≤ 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 and ≤ 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55 and ≤ 80
F	Operation with delays unacceptable to most drivers occurring due to over saturation poor progression, or very long cycle lengths.	> 80

Source: Transportation Research Board, 2016. Highway Capacity Manual 6th Edition

The four study intersections were selected based on a review of the traffic operations prepared for recent transportation studies, including the Metro Center Hotel Project EIR.[6] The selected study intersections represent the primary bottlenecks for traffic entering and exiting Foster City from SR 92 during the peak hours of traffic generated by employment land uses such as those proposed by the Project. The four intersections are closely spaced together and vehicle queues often extend between intersections and affect operations at the adjacent intersections. These four intersections were evaluated using the VISSIM micro-simulation software package to account for these interactions. A description of the methodology is included in the Foster City General Plan Update EIR.[7] As presented in the Metro Center Hotel Project EIR, which generated a similar number of vehicle trips to the proposed Project, all other intersections in the study area are anticipated to operate acceptably under all analysis scenarios, and therefore were not studied for compliance with the Foster City General Plan Land Use and Circulation Policy LUC-F-1 within this TIA.

[6] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.
[7] City of Foster City, 2015. Foster City General Plan Update EIR.

Existing Intersection Level of Service

The existing LOS analysis results for the study intersections are shown in **Table 3**, vehicle volumes are depicted in **Appendix D:** and detailed LOS and queuing results are in **Appendix E:**. The existing LOS results are based on recently collected turning movement volumes (from 2019), existing lane configurations, and traffic control. The level of service analysis results for the four study intersections are based on simulation results from the VISSIM micro-simulation model.

Most study intersections operate at an acceptable LOS D or better during the AM peak as outlined in **Table 3**. However, during the PM peak, three of the four intersections operate at LOS E (Foster City Boulevard / Metro Center Boulevard) or F (Chess Drive / Foster City Boulevard and SR-92 Eastbound Ramps). These intersections connect westbound and eastbound SR-92 ramps via Foster City Boulevard. The poor level of service is primarily due to congestion at the SR-92 Eastbound On-ramp that spills back to block southbound traffic on Foster City Boulevard and eastbound Chess Drive. Foster City General Plan Land Use and Circulation Policy LUC-F-1 acknowledges these operations and limited improvement opportunities by stating that it will be necessary to accept LOS E or F at the following intersections: Chess Drive / SR-92 Ramps, Foster City Boulevard / Triton Boulevard / Metro Center Boulevard, and East Hillsdale Boulevard / Edgewater Boulevard.

Table 3: Existing LOS and Delay Results

Intersection	Peak Period	Existing	
		Delay (Seconds)	LOS
Chess Drive / SR-92 Westbound Ramps	AM	17	B
	PM	41	D
Chess Drive / Foster City Boulevard	AM	22	C
	PM	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	32	C
	PM	**66**	**E**
Metro Center Boulevard / SR-92 Eastbound Ramps	AM	17	B
	PM	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

As of August 2021, traffic congestion is much lower at all the study locations compared to 2019 pre-pandemic conditions. Mainline congestion on SR 92 and regional cut-through traffic attempting to bypass congestion on SR 92 and US 101 has not returned to pre-pandemic levels, which was the primary source of congestion on local Foster City roadways near the Project site in 2019. During the evening peak hour site visit, no vehicle queues were observed to extend between the study intersections and all vehicles cleared the signal each cycle. These conditions represent acceptable LOS D conditions or better.

Existing Parking Conditions

On-street parking on roadways adjacent to the Project Site is generally not permitted. Parking is prohibited on Vintage Park Drive and Chess Drive, the two streets adjacent to the Project site. No other streets within 1,000 feet of the Project site (as the crow flies) have on-street parking permitted. The existing surface parking lot for the existing vacant commercial building at the Project site would be replaced by the parking structure for the proposed Project.

Regulatory Setting and Significance Criteria

State and local laws, regulations, and orders that pertain to transportation and traffic resources in the Project area are presented below.

California Senate Bill 743

California Senate Bill 743 (SB 743) was signed into law in 2013 and fundamentally changes the way transportation impacts under CEQA are analyzed. It required the Office of Planning and Research (OPR) to "prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the [CEQA] guidelines …establishing criteria for determining the significance of transportation impacts of projects" in order to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

On December 28, 2018, the Natural Resources Agency adopted CEQA Guidelines Section 15064.3 which establishes specific criteria for evaluating a project's transportation impacts and states that "vehicle miles traveled is the most appropriate measure of transportation impacts". It gives agencies the "discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure" provided that "[a]ny assumptions used to estimate vehicle miles traveled… should be documented and explained in the environmental document prepared for the project." Section 15064.3 further states that except for certain transportation projects, "a project's effect on automobile delay shall not constitute a significant environmental impact." See *Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 Cal. App. 5th 609, 626 (holding that a general plan's impact on level of service (LOS) which effectively measures automobile delay can no longer constitute a significant environmental impact).

Additionally, OPR issued a technical advisory memorandum in December 2018 that includes general guidance and information for lead agencies to use in implementing SB 743, including choosing vehicle miles traveled (VMT) methodology and establishing VMT thresholds. Lead agencies have until July 1, 2020 to implement methodologies and thresholds related to VMT to comply fully with SB 743. Since Foster City has not yet adopted citywide generally applicable VMT thresholds for impact determination (pursuant to 14 Cal. Code Regs 15064(b) and because LOS analysis can no longer be used to make impact determinations , a project-specific (or ad hoc) VMT threshold is used for this analysis as allowed under CEQA and as explained in further detail in other sections.

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area (Bay Area). It is responsible for developing

the regional transportation plan and prioritizing regional transportation projects for State and federal funding.

City/County Association of Governments of San Mateo County

The City/County Association of Governments of San Mateo County (C/CAG) is the County's Congestion Management Agency. It prepares a Congestion Management Plan (CMP), which identifies improvements and strategies to relieve congestion on regional transportation facilities and sets funding priorities. The CMP is required to be consistent with the MTC planning process and projects for the Regional Transportation Improvement Program. C/CAG also provides guidelines for the analysis of land use projects and their effects on the designated CMP roadway system. These include requirements for TDM plans that have the capacity to fully reduce the demand for new peak-hour trips to reduce the burden of additional development on the roadway network.

The San Mateo County CMP roadway system comprises 53 roadway segments and 16 intersections. The CMP facilities in Foster City include US 101 and SR-92.

Caltrans

Caltrans is responsible for the maintenance and operation of State routes and highways. In Foster City, Caltrans facilities include SR-92 and US 101. Caltrans maintains a volume monitoring program and reviews local agencies planning documents (such as this EIR) to assist in its forecasting of future volumes and congestion points. The Guide for the Preparation of Traffic Impacts Studies published by Caltrans[8] is intended to provide a consistent basis for evaluating traffic impacts to State facilities. The City recognizes that "Caltrans endeavors to maintain a target level of service at the transition between LOS C and LOS D on State highway facilities;" however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target level of service. Caltrans states that, for existing State highway facilities operating at less than the target level of service, the existing level of service should be maintained.

Caltrans released a VMT-Focused Transportation Impact Study Guide (May 20, 2020) that recommends use of the OPR recommendations for land use projects and plans. For transportation projects, Caltrans has suggested that any increase in VMT would constitute a significant impact for transportation projects. This has been referred to as the "Net Zero VMT threshold."

San Mateo County Transportation Authority

The San Mateo County Transportation Authority was formed in 1988. The authority administers the proceeds from Measure A, the voter approved half-cent sales tax, to fund a variety of transportation-related projects and programs. San Mateo County Transportation Authority projects in the vicinity of Foster City include construction of new auxiliary lanes on US 101.

[8] Caltrans, 2002. Guide for the Preparation of Traffic Impacts Studies, December.

Foster City General Plan

All cities in California are required to prepare and adopt a General Plan. The General Plan presents the community's long-range view regarding its physical development. Specifically, it contains goals, policies, and programs addressing the development and redevelopment of land, preservation of parks and open spaces, provision of housing, conservation of natural resources, improvement of the transportation system, control of noise, and protection from hazards.

The Land Use and Circulation Element of the Foster City General Plan was adopted in February 2016. The applicable circulation goals, policies, and programs related to transportation impacts related to the construction of the project are included below. Foster City's City Council recently adopted amendments to the General Plan[9] to include reference to the recently adopted Green Infrastructure Plan[10] which encourages all street design and development to incorporate green streets and green infrastructure best practices.

- **Goal LUC-E: Provide for Diversified Circulation Needs.** Develop, improve and maintain a circulation system which provides efficient and safe access for private vehicles, commercial vehicles, public transit, emergency vehicles, bicycles and pedestrians.
- **Goal LUC-F: Maintain Acceptable Operating Conditions on the City's Road Network.** Maintain acceptable operating conditions on the City's road network at or above LOS D, or equivalent measurement, and encourage the maximum effective use of public and private vehicles, reduce the growth in peak hour traffic volumes and reduce single passenger trips.
- **Goal LUC-G: Provide Adequate Parking.** Ensure that adequate off-street parking is incorporated into new and modified projects and designed for safe and effective circulation.
- **Goal LUC-H: Foster a More Sustainable Community.** Strive to be a community that meets the needs of the present without compromising the ability of future generations to meet their own needs by promoting land use strategies that decrease reliance on automobile use, increase the use of alternative modes of transportation, maximize efficiency provision of services and reduce emissions of GHGs.
- **Goal LUC-L: Provide Adequate Services and Facilities.** Ensure that new and existing developments can be adequately served by municipal services and facilities.
- **Policy LUC-E-1:** Improvements to Existing Streets. The City will maintain and improve the existing system of major and collector streets.

[9] General Plan amendments include changes to the following Land Use and Circulation Element goals and policies: LUC-D-4, LUC-D-8, LUC-E, LUC-E1, LUC-E-2, LUC-E-2-a, LUC-E-2-b, LUC-E-2-d, LUC-E-2-e, LUC-E-3, LUC-E-4, LUC-E-7, LUC-E-7-a, LUC-E-8-b, LUC-F-1-d, LUC-H-6, LUC-H-6-a, LUC-K-2, and LUC-L-10. (https://fostercityca.civicclerk.com/Web/GenFile.aspx?ad=12742)

[10] Foster City Green Infrastructure Plan, approved by the City Council of the City of Foster City August 19, 2019 (Resolution No. 2019-83) (https://www.fostercity.org/publicworks/page/foster-city-green-infrastructure-plan)

- **Policy LUC-E-2: Complete Streets.** The City will plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel.
- **Policy LUC-E-3: Streets in Residential Neighborhoods.** Residential neighborhoods shall be protected from through traffic by maintaining the system of narrower collector and local streets and minimizing the number of through streets. To accomplish this, the City may consider other traffic calming techniques.
- **Policy LUC-E-4: Private Streets and Public Loop or Cul-de-Sac Streets.** The City will enforce design standards for private streets and public loop or cul-de-sac streets to ensure that they meet minimum requirements for two-way traffic, parking, and emergency access. Private streets and public loop or cul-de-sac streets may be approved with narrower than standard widths, provided that emergency access and parking can be safely accommodated. They are not intended to provide curbside parking, and the roads are designed to serve only those residences on that street or within that development.
- **Policy LUC-E-5: Access to New Commercial and Industrial Projects.** New commercial and industrial developments shall be designed so that, wherever necessary and possible, entrance to the projects can be gained by way of left- or right-turn only lanes. Only the minimum number of entrance or exit points shall be allowed as are needed to ensure safe and efficient internal traffic flow and to reduce through traffic delays on public roads serving the project.
- **Policy LUC-E-6: Create Opportunities for Transit Access.** Create opportunities to improve transit and access to regional transit with new or modified development, as appropriate.
- **Policy LUC-E-7:** Coordination with Transit Agencies that Serve San Mateo County. The City shall work with SamTrans, Alameda-Contra Costa Transit District (AC Transit), the Peninsula Traffic Congestion Relief Alliance, RIDES and other agencies that serve San Mateo County in defining new transit routes and improving the public transit and transportation system.
- **Policy LUC-E-8 Pedestrian, Bicycle and Neighborhood Electric Vehicle (NEV) Friendly Design.** Encourage bicycling, walking and use of NEVs instead of driving automobiles to reduce greenhouse gas emissions, save money on fuel and maintenance, and foster a healthier population. Prioritize pedestrian and bicycle-friendly improvements including bike lanes on main streets, an urban bike-trail system, bike parking, pedestrian crossings, and associated master plans with new or modified development, as appropriate.
- **Policy LUC-E-9: Bicycle Routes and Pedestrian Paths.** Maintain a system of bicycle routes and pedestrian paths, which will include separate bicycle lanes and posted bicycle routes. Pedestrian pathways and easements shall be maintained, either by the City, or, in the case of private ownership, according to a maintenance agreement or landscaping district agreement applicable to the pathway/easement.
- **Policy LUC-F-1:** Traffic Level of Service Standards. The City shall seek to achieve a traffic service level of "C" or better on City streets and level of "D" or better during peak traffic hours, although it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive, the Foster City Boulevard / Metro Center Boulevard /Triton Drive, Vintage Park Drive / Chess Drive, and the Foster City Boulevard / Chess intersections due to their role as access points

to the freeway system. The level of service standard will be maintained through the following means:

  - Intelligent Transportation Systems (ITS).
  - Transportation Demand Management (TDM) for development projects.
  - Capital Improvement Program and coordination with federal, state, county and district funding programs for street and other transportation improvements.
  - Developer payment of pro rata fair share of traffic improvement costs for new developments.

- **Policy LUC-G-2:** Preferred Parking/Electric Plug-in. Encourage businesses, developers, and property managers to create preferred parking for electric and alternative fuel vehicles and study the installation of electric charging stations for plug-in vehicles.
- **Policy LUC-G-3:** Off-Street Parking Requirements. The City shall maintain off-street parking requirements based on use permits of record, the historical parking patterns of residential and non-residential projects, and related information developed by the Urban Land Institute, Institute of Traffic Engineers, or other reliable sources.
- **Policy LUC-H-2:** Reduce GHG Emissions. The City will strive to reduce GHG emissions by reducing vehicle miles traveled by supporting trip reduction programs and encouraging the use of alternative fuels and transportation technologies.

Significance Criteria

The criteria for evaluating the significance of a project's environmental impacts are based on the CEQA Guidelines Appendix G checklist, the City's Environmental Review Guidelines, and applicable standards recognized by C/CAG. For this analysis, transportation impacts would be considered significant if the project would:

1. Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b), concerning VMT;
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
4. Result in inadequate emergency access.

Thresholds of Significance

To apply the significance criteria listed above, the analysis in this section uses the following significance thresholds, which are based on federal, State, and local regulations.

Circulation System Consistency Thresholds (Criterion 1)

Transit. Based on General Plan Goals LUC-E and LUC-H and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to transit would be considered significant if the project would:

a. Disrupt existing transit services or facilities. This includes disruptions caused by project access points or staging areas near streets used by transit and transit stops/shelters; or
b. Interfere with planned transit services or facilities; or
c. Conflict or create inconsistencies with adopted transit system plans, guidelines, policies, or standards.

Roadway System. Per SB 743, transportation impacts related to vehicle delay or level of service are no longer considered significant environmental impacts. The criteria listed below related to intersection and freeway segments are discussed for consistency with General Plan Goal LUC-F.

Intersection effects would be inconsistent with the standards set forth in the General Plan if the project would:

a. Cause a signalized intersection operating at an acceptable level of service (LOS A-D) to deteriorate to an unacceptable level (LOS E-F) with the addition of project trips; or
b. Increase average delay by four or more seconds at an intersection that is already operating at an unacceptable level (LOS E-F) without the project.

However, the Foster City General Plan Land Use and Circulation Policy LUC-F states that it will be necessary to accept LOS E or F at the following intersections: Chess Drive / SR-92 Ramps, Foster City Boulevard / Triton Boulevard / Metro Center Boulevard, and East Hillsdale Boulevard/ Edgewater Boulevard.

Bicycle and Pedestrian Facilities. Based on General Plan Goals LUC-E and LUC-H and the City's interpretation of CEQA Appendix G, conflicts with a program, plan, ordinance or policy related to bicycle and pedestrian facilities would be considered significant if the project would:

a. Disrupt existing or planned bicycle or pedestrian facilities (e.g. San Mateo County Bike Plan, Foster City Bicycle Master Plan); or
b. Create inconsistencies with adopted bicycle or pedestrian system plans, guidelines, or policy standards.

VMT Thresholds (Criterion 2)

VMT. Based on California Air Resources Board (ARB)[11] recommended thresholds, impacts related to VMT would be considered significant if the project would:

[11] California Air Resources Board, January 2019. 2017 Scoping Plan-Identified VMT Reductions and Relationships to State Climate Goals.

a. Generate VMT/service population greater than 16.8 percent below the regional average.

As noted above, Foster City has not yet adopted generally applicable VMT thresholds for impact determination. Foster City is currently working with C/CAG to identify citywide VMT thresholds. The project-specific threshold used for analysis in this document is based on recommendations published by OPR, which is the most current available for Foster City at the time of preparation of this TIA. Additional information related to VMT thresholds is included in other sections.

Hazards Thresholds (Criterion 3)

Hazards. Based on General Plan Goal LUC-E and the City's interpretation of CEQA Appendix G, impacts related to hazards would be considered significant if the project would:

a. Substantially increase hazards due to a geometric design feature; or
b. Result in an incompatible land use.

Emergency Access Thresholds (Criterion 4)

Emergency access. Based on General Plan Goal LUC-E and the City's interpretation of CEQA Appendix G, impacts related to emergency access would be considered significant if the project would:

a. Limit emergency vehicle access routes or roadway facilities; or
b. Create a project site that is inaccessible to emergency vehicles.

Existing Plus Project Conditions

The Project proposes a 95,931 square-foot life sciences office with a surface parking garage accessed via Chess Drive and Vintage Park Drive. The Project would have a daily employee population of 213 people. This section presents the traffic conditions with the Project, including Vehicle Miles Traveled and LOS, while site access and circulation issues and other related topics are evaluated within the Additional Transportation Analysis sections.

Project Trip Generation and Distribution

Trip Generation

Trip generation rates were determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. The ITE rate for General Office Building was used to determine Project trip generation. The Project would have a lower employee density than a typical office due to the lab space allocated to life sciences uses compared to traditional office buildings. Based on the total number of employees at the site, the Project would have an employee density of 1 employee per 450 square feet. The ITE rate for General Office Building would have an approximate average employee density of 1 per 340 square feet. To reflect the effects of having a lower employee density associated with a life science use, trip generation rates per employee were used instead of trip rates per square feet of office. See **Appendix B:** for further discussion of the trip generation methodology. Trip generation results are shown in **Table 4** below.

Table 4: Project Vehicle Trip Generation

Land Use	Units	ITE Code	Vehicle Trips							
			Daily	AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total
Proposed General Office Building	213 employees	710	699	65	13	78	17	68	85

Sources: Fehr & Peers, 2021; ITE Trip Generation Manual, 10th Edition. Calculated using the ITE rate for peak hour of adjacent street traffic.

Trip Distribution

Trip distribution refers to the directions the vehicle trips generated by the Project would use to approach and depart the site and the percentage of traffic using each direction. The geographic distribution and trip percentages are shown on **Figure 6**.

Trip distribution was based on a review of prior studies conducted in Foster City,[12] which were based on the travel demand model maintained by C/CAG, the distribution of home locations for employees that currently work in Foster City (from Longitudinal Employer-Household Dynamics, or LEHD, data from 2018), and local knowledge of travel patterns.

The largest share of Project trips would travel from the west to the Project site via SR-92, which would include trips traveling from the west as well as trips originating in the north or south on US 101. Approximately 20 percent of trips would also travel from the east via SR-92 from the East Bay to represent commuters traveling into Foster City from home locations in the East Bay. Some trips would use local roads, including a those traveling from the north on East Third Avenue and from the south on Foster City Boulevard, Shell Boulevard, or other Foster City arterials.

Project trip assignment refers to assigning trips to the roadway network via specific turning movements at study intersections. It can vary between the peak AM and PM hours, but many of the assignments are the same. Project trip assignment assumes that vehicles accessing the Project site would use a full access driveway on Chess Drive or a right-in, right-out driveway on Vintage Park Drive. Project trip assignment and resulting Project Volumes are shown in **Appendix D:.**

[12] Lincoln Centre Life Sciences Research Campus Draft Environmental Impact Report, April 2015, State Clearinghouse No 2014092049.

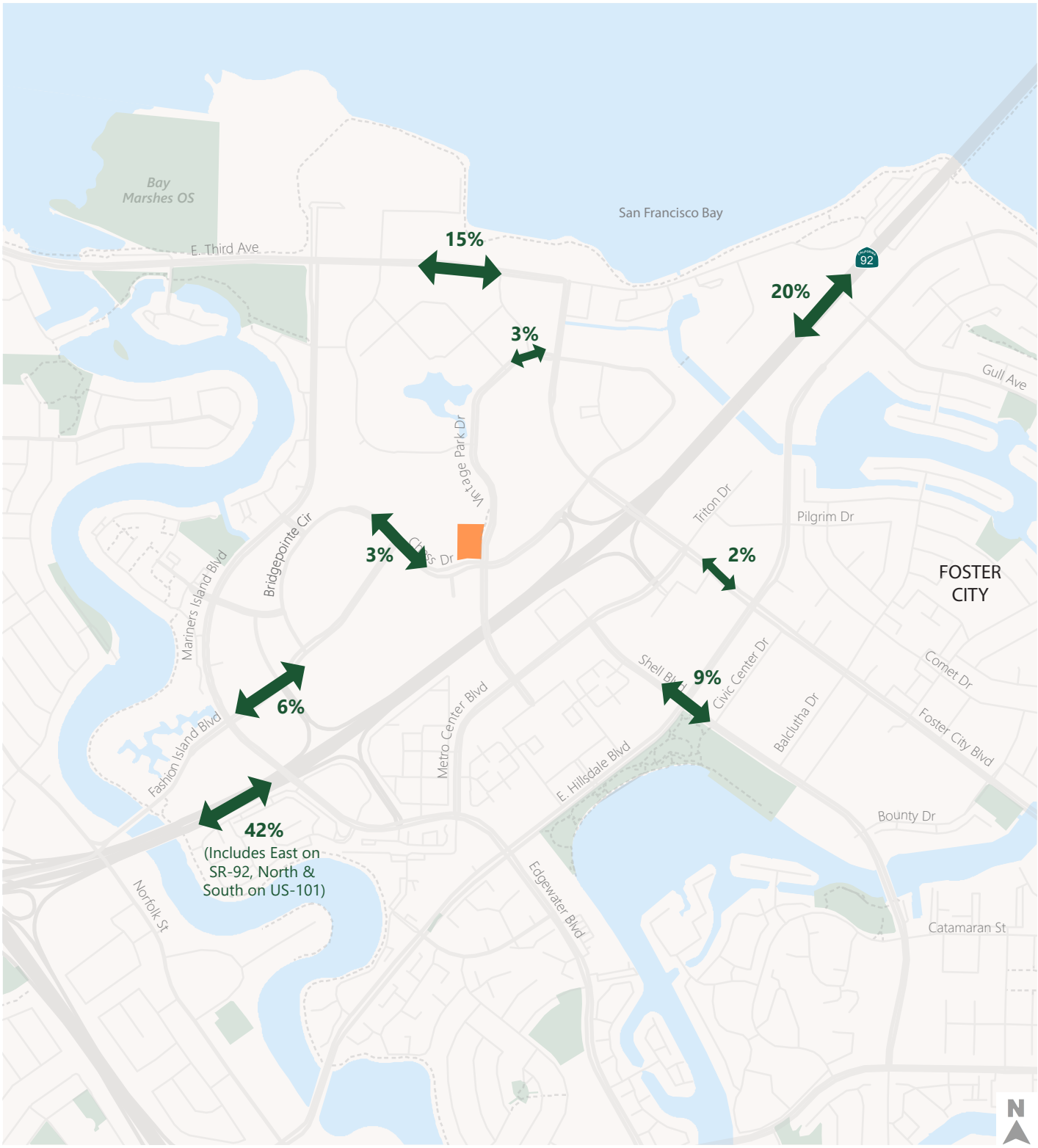


Figure 6

Trip Distribution

Plus Project VMT

The purpose of this section is to introduce vehicle miles traveled (VMT) and evaluate whether the Project fulfills the screening criteria presented in the TIA Guidelines. VMT is a measurement of the amount and distance that a person drives, accounting for the number of passengers within a vehicle. Many interdependent factors affect the amount and distance a person might drive. In particular, the type of built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travel (e.g., private vehicle, public transit, bicycling, walking, etc.). Typically, low-density development located at great distances from other land uses and in areas with few alternatives to the private vehicle provides less access than a location with high density, mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT per capita compared to a similarly sized development located in urban areas. In general, higher VMT areas are associated with more air pollution, including greenhouse gas emissions, and energy usage than lower VMT areas. VMT is calculated by multiplying the number of trips generated by a Project by the total distance of each of those trips.

VMT Analysis

Since the City has not yet adopted a VMT threshold, and interim Project threshold was developed based on the metrics and methods described in **Appendix A:**. The Office of Planning and Research (OPR) recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold.

A significant impact would occur should existing home-based work (HBW) VMT per employee in the travel demand analysis zone (TAZ) that encompasses the Project result in greater than 14.3 VMT per employee under existing conditions. This is based on the threshold of 15 percent below the existing county-wide average of 16.8 VMT per employee.

Table 5: Home-Based Work VMT per Employee, by Location (2015 Estimates)

Location	HBW VMT per Employee
Threshold Geography Average (County of San Mateo)	16.8
Foster City Project Area	16.0
Foster City Project Area with 10% TDM Reduction	14.3
Percent Difference	**-15%**
Expected Project Impact on VMT?	**No**

Source: Fehr & Peers, 2021; C/CAG-VTA Bi-County Transportation Demand Model, 2021.

Plus Project Vehicle Volumes and Level of Service

Plus project trips were added to the existing volumes to create Existing Plus Project volumes. **Table 6** below presents Existing Plus Project LOS and intersection delay in seconds for the study intersection. All study intersections operate at the same LOS under existing plus project conditions as compared to existing conditions, except the intersection of Chess Drive / SR-92 Westbound Ramps during the PM peak hour which would degrade from LOS D to LOS F. At other intersections, Project trips result in very minor increases to delay that are imperceptible to drivers. Vehicle volumes are shown in **Appendix D:** and detailed LOS results are described in **Appendix E:**.

Table 6: Plus Project LOS and Delay Results

Intersection	Peak Period	Existing		Existing Plus Project	
		Delay (Seconds)	LOS	Delay (Seconds)	LOS
Chess Drive / SR-92 Westbound Ramps	AM	17	B	18	B
	PM	41	D	**>80**	**F**
Chess Drive / Foster City Boulevard	AM	22	C	23	C
	PM	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	32	C	33	C
	PM	**66**	**E**	**66**	**E**
Metro Center Boulevard / SR-92 Eastbound Ramps	AM	17	B	17	B
	PM	**>80**	**F**	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

The LOS at Chess Drive / SR-92 Westbound Ramps would increase from LOS D to LOS F due to the addition of Project-generated vehicle trips to the eastbound through movement on Chess Drive, which operates at capacity under existing conditions. Although the number of Project trips to this movement is relatively small compared to the overall traffic volumes at this intersection, the additional delay incurred by each additional driver is very high due to the long intersection signal length and the short phase length for the eastbound through movement. Adjusting the signal timing by transferring an additional three seconds to the eastbound through movement from the westbound approach would reduce the average delay at this intersection to an acceptable LOS D as presented in **Table 7**.

Changes to LOS are not considered an environmental impact as noted in the Regulatory Setting section. The City of Foster City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive. Therefore, the potential for Project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and no action on the part of the Project is required. Further, this analysis result relies on conservative assumptions for the Project trip assignment, where all vehicles traveling to traveling north to East Third Avenue or south on Foster City

Boulevard would travel through the study intersections on Chess Drive by exiting to Vintage Park Drive and turning southbound left. Under congested conditions along Chess Drive, these drivers would choose to take other, less congested routes. As for many destinations, there are multiple routes that a driver could take to reach or depart the Project site, and the Project-generated vehicle trips would disperse across the roadway network and generate less of an affect compared to what is presented in this analysis. The City of Foster City will continue to monitor roadway conditions and signal operations as a part of routine maintenance and would adjust signal timings in the future as traffic conditions warrant.

Table 7: Plus Project LOS and Delay Results – With Signal Timing Change

Intersection	Existing		Existing Plus Project (with Signal Timing Change)	
	Delay (Seconds)	LOS	Delay (Seconds)	LOS
Chess Drive / SR-92 Westbound Ramps	41	D	52	D
Chess Drive / Foster City Boulevard	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	**66**	**E**	**67**	**E**
Metro Center Boulevard / SR-92 Eastbound Ramps	**>80**	**F**	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

Cumulative Conditions

This section presents a summary of the Cumulative (2040) Conditions. It includes a description of Projects and transportation network changes that are assumed to be include under future Cumulative Conditions and the methodologies used to calculate future year volumes. It also presents the impacts associated with transportation that would results from the Project for Cumulative Plus Project Conditions. Cumulative No Project Conditions form the baseline against which the Cumulative Plus Project scenario is compared.

Cumulative Projects

The Cumulative (2040) No Project Conditions include construction of reasonably foreseeable development projects in the area. **Table 8** summarizes the projects in Foster City that are considered reasonable and foreseeable and which are included under Cumulative Conditions.

Table 8: Cumulative Development

Project	Proposed Land Use[1]
Pilgrim Triton	332 DUs 10 KSF Retail 35 KSF Office
Gilead Campus Master Plan	1,044 KSF Office
Foster Square	152 Senior DUs 90 Assisted Living DUs 30 KSF Retail
Lincoln Centre	388 KSF Office 166 KSF Lab
Charter Square School	600 Students[2]
Chess Hatch Master Plan	800 KSF Office[3]
Metro Center Hotel	83 KSF Hotel

Notes:
1. DU = Dwelling Unit; KSF = thousand square feet.
2. Project replaces 58 KSF retail.
3. Project replaces 190 KSF office.
Source: Fehr & Peers, 2021.

Cumulative Transportation Network Changes

Figure 3.6 of the City of Foster City General Plan includes future roadway improvements that are assumed to be needed to accommodate future proposed development and background growth. Of the improvements included in General Plan Figure 3.6, several improvements have already been constructed and are therefore included under Existing Conditions. One of the planned roadway improvements

identified in the General Plan is no longer under consideration by the City. **Table 9** summarizes all of the future roadway improvements included under Cumulative Conditions.

Table 9: Cumulative Roadway Improvements

Intersection	Geometry Change
Foster City Boulevard / Chess Drive	Construct northbound right-turn lane
	Construct second westbound through lane
	Lengthen northbound left-turn lane
	Lengthen westbound left-turn lane

Source: Source: Foster City General Plan Figure 3.6, 2016.

Cumulative Volumes

Cumulative (2040) No Project traffic volumes include traffic estimates from the cumulative development projects summarized in **Table 8** as well as additional background growth associated with probable future development. Cumulative No Project volumes are based on trip generation for future development projects and distribution patterns included in the Foster City Multi-Project Traffic Analysis and as described in the Metro Center Hotel Project EIR[13] Cumulative No Project volumes are based on Cumulative Plus Project volumes reported in the Metro Center Hotel Project EIR to include the effects of this reasonably foreseeable project. Cumulative Plus Project volumes in this study represent Cumulative No Project volumes plus project trips as described above. Cumulative No Project and Cumulative Plus Project peak-hour intersection turning movement volumes are summarized in **Appendix D:**. Detailed results and a queuing summary are described in **Appendix E:**.

Cumulative Intersection Level of Service

Cumulative Intersection LOS results are depicted in **Table 10**. With the addition of Project-generated trips, all intersections would operate at the same level of service as under Cumulative No Project Conditions. During the AM peak hour, two study intersections would continue to operate at unacceptable LOS E or F with the addition of Project trips – the SR-92 Westbound Ramps and the Foster City / Metro Center intersection. During the PM peak hour, all four intersections would continue to operate at unacceptable LOS F with the addition of Project trips. However, average delay would not increase significantly with the addition of Project trips at any intersection already operating unacceptably. Only the Foster City / Chess Drive intersection in the PM peak hour would increase delay by more than 10 seconds with the addition of Project trips for similar reasons described under Existing Plus Project conditions. Similar to Existing Plus Project conditions, changes to LOS are not considered an environmental impact and the City of Foster City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive. Therefore, the potential for Project vehicle trips to increase delay at this

[13] Metro Center Hotel Project Draft Environmental Impact Report, March 2020, State Clearinghouse No. 2019049065.

location would not conflict with the City's adopted policies and no action on the part of the Project is required.

Table 10: Cumulative Level of Service

Intersection	Peak Period	Existing		Cumulative (2040)		Cumulative Plus Project (2040)	
		Delay	LOS	Delay	LOS	Delay	LOS
Chess Drive / SR-92 Westbound Ramps	AM	17	B	**69**	**E**	**72**	**E**
Chess Drive / Foster City Boulevard	PM	41	D	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	22	C	33	C	33	C
	PM	**>80**	**F**	**>80**	**F**	**>80**	**F**
Chess Drive / SR-92 Westbound Ramps	AM	32	C	**59**	**E**	**58**	**E**
Chess Drive / Foster City Boulevard	PM	**66**	**E**	**>80**	**F**	**>80**	**F**
Foster City Boulevard / Metro Center Boulevard	AM	17	B	48	D	52	D
	PM	**>80**	**F**	**>80**	**F**	**>80**	**F**

Note: Bold indicates exceeds Foster City standards of LOS D.
Source: Fehr & Peers, 2021.

Additional Transportation Analysis

This section presents an analysis of other transportation issues associated with the Project site, including:

- Impacts to vehicle, pedestrian & bicycle site access and circulation
- Driveway sight distance and vehicle queuing
- Parking
- Hazards and emergency vehicle access

The analysis in this section is based on professional judgment in accordance with the standards and traffic engineering standard practices.

Vehicle Access and Circulation

Access Configurations

Motor vehicle access is provided to the Project site via two driveways, each with bidirectional vehicle access. One 26-foot-wide driveway is proposed on the Project's Chess Drive frontage approximately 160-feet west of the Chess Drive / Vintage Park intersection. The second driveway is 26-feet wide and is located on the Project's Vintage Park Drive frontage approximately 300-feet north of the Chess Drive / Vintage Park Drive intersection. The location of both driveways is generally unchanged from existing conditions and several landscape medians restrict or potentially impede movements in all directions.

A continuous landscape median along the Project's Vintage Park Drive frontage restricts movements at the Project driveway to only inbound and outbound right turns. In contrast, the Chess Drive landscape median is punctuated by an approximately 85-foot-long two-way-left turn lane that begins approximately 150-feet west of the Chess Drive / Vintage Park Drive intersection. This opening allows both Project stie access in all directions and provides westbound left turn access to a neighboring commercial use. However, the outbound left turn movement from the Project driveway is potentially problematic due to the curvature of Chess Drive and the potential for conflicts with vehicles approaching the neighboring hotel/restaurant site.

On-Site Auto Circulation

A series of 90-degree parking stalls and drive aisles provide continuous two-way vehicle circulation throughout the Project site and between the Project's two access driveways. Plans provided by the Project Sponsor indicate the drive aisle that connects the Chess Drive and Vintage Park Drive driveways would provide emergency vehicle access.

Commercial Vehicle Circulation

The Project's freight loading dock is located on the building's west elevation. Commercial vehicles would access the loading dock via Chess Drive and depart to Vintage Park Drive. Truck turning exhibits prepared by the Project sponsor indicate a medium semitrailer truck would have adequate maneuvering area to complete this movement.

Pedestrian Bicycle Site Access and Circulation

A new 15-foot-wide on-site pathway would provide direct, barrier-free non-motorized access to both the Project's main building entrance and secure bicycle parking facility which is approximately 80-feet south of the main entrance. Secondary pedestrian access is provided between Chess Drive and the building's south elevation via a five-foot-wide pathway. Although project designs do not currently show accessible curb ramps at the north corner of the driveway that intersects Vintage Park Drive, these improvements would be required during the design process to fulfill the City's accessibility standards.

The building's main entrance and overall site layout is generally pedestrian-oriented: building entrances are visible from and directly accessible from the public street while parking and vehicle driveways are located to the sides and rear of the site. As noted in the existing conditions section, the Project site is served by existing public sidewalks and city-designated Class III bicycle routes along both Vintage Park and Chess Drive frontages. The lack of dedicated bicycle facilities along both streets requires bicyclists to share the roadway with vehicles to access the Project site.

Recommended Improvement

The two proposed driveways on Chess Drive and Vintage Park Drive are at street grade, which requires pedestrians traveling along the sidewalk to ramp down when crossing the driveways. Instead, it is preferable to maintain the sidewalk elevation through the driveway, requiring vehicles to ramp up and over the sidewalk. This feature emphasizes pedestrian right-of-way and slows vehicle speeds, reducing the potential for pedestrian-vehicle conflicts. Plans should be revised to use a sidewalk-grade driveway per Foster City Standards. In absence of an applicable City standard plan, Caltrans Standard Plan A87A or driveway plans from neighboring jurisdictions (City of San Mateo Plan 3-1-148; Redwood City Standard Detail C-2) may be used with authorization from Foster City staff.

Transit Access and Circulation

The Project site is served by three existing on-street transit stops, all of which are approximately 500 feet from the building's primary entrance. Existing pedestrian facilities including sidewalks and crosswalks provide continuous pedestrian connectivity between all transit stops and the building's access points. The vehicle trips generated by the Project are not anticipated to substantially affect existing transit service operations.

Driveway Sight Distance

As shown in **Figure 8**, the stopping sight distance at both driveways appears clear of vertical obstructions that would otherwise block visibility between drivers departing the sight and those approaching on the intersecting street. Prior to building permit issuance, City staff or other qualified individuals should review plans to ensure clear sight distance is maintained and free of obstructions such as building monument signs and excessive vegetation.

Parking & Loading Conditions

Parking Supply

Foster City Municipal Code (FCMC) Chapter 17.62 requires new developments to provide off-street loading and automobile, bicycle, and motorcycle parking facilities. The relevant parking minimums are shown in **Table 11**. Based on FCMC Chapter 17.62, the Project would be required to provide a minimum of 320 automobile parking stalls or an adjusted minimum of 256 stalls. The adjusted minimum accounts for two reductions permitted under the zoning code. First, a maximum 15% reduction is permitted with approval of a TDM plan that meets the conditions identified in FCMC Chapter 17.62.060(D)(3). Second, an additional 5% reduction is permitted based on credits for providing bicycle and motorcycle spaces as required in FCMC Chapter 17.62.060(D)(4). The Project proposes 210 parking stalls which is 110 stalls fewer than the 320-stall minimum or 46 stalls fewer than the adjusted minimum. The Project may have to obtain a variance or increase the proposed parking supply to provide fewer than 256 stalls.

Parking generation rates from the ITE Parking Generation Manual, 5th Edition, were used to estimate weekday parking demand at the Project by time of day. The Parking Generation Manual collects data on parking occupancy at different sites to estimate the average parking generation rate by land use category by time of day. Using the per employee parking generation rates for General Office (710), the Project would be expected to generate a peak hour demand of 179 parking stalls.[14] Based on this analysis, peak parking demand is anticipated to be less than the proposed parking supply.

[14] This includes employee and visitor parking demand.

Table 11: Off-Street Parking Requirements

Parking Standard		Required Parking	Proposed Parking
Automobile Parking			
Research & Development Facilities	1 space per 300 square feet of gross floor area	320	210[1]
	Minimum number of stalls with all available adjustments	256	
Motorcycle Parking			
All Commercial/Nonresidential Uses	1% of the total number of parking stalls provided	2	14
Bicycle Parking			
Short-Term	None Required	0	0
Long-Term	None Required	0	20

Notes:
1. Foster City Planning code provides a credit for the provision of motorcycle and bicycle parking. Including 10 stalls associated with this credit, the project would provide the equivalent of 220 parking spaces, or a ratio of 2.3 stalls per 1,000 square feet.
Source: Foster City Municipal Code Chapter 17.62

Parking Design

The ground level of the proposed building would include a garage that would contain 102 parking spaces and would be accessed from a driveway at the northwest corner of the proposed building. An additional 108 surface parking spaces would be provided along the northern and western boundaries of the project site, for a total of 210 parking spaces. 75 stalls would be provided within stackers in the garage and 57 stalls or approximately 27 percent of the total supply are compact spaces. The number of compact stalls exceeds the five percent maximum identified in FCMC Chapter 17.62.060(C)(4). However, this code section authorizes the Community Development Director to approve up to 30 percent of all stalls as compact stalls for "unusual circumstances." The Project sponsor will therefore need the Community Development Director confirm the site characteristics, such as the unique shape and other code requirements, meet the intent of the code. As noted in the Urban Land Institute's Dimensions of Parking, 5th Edition, compact spaces are most appropriate for parking stalls with low turnover and regular users, such as for employees of the proposed Project.

Loading Space Requirements

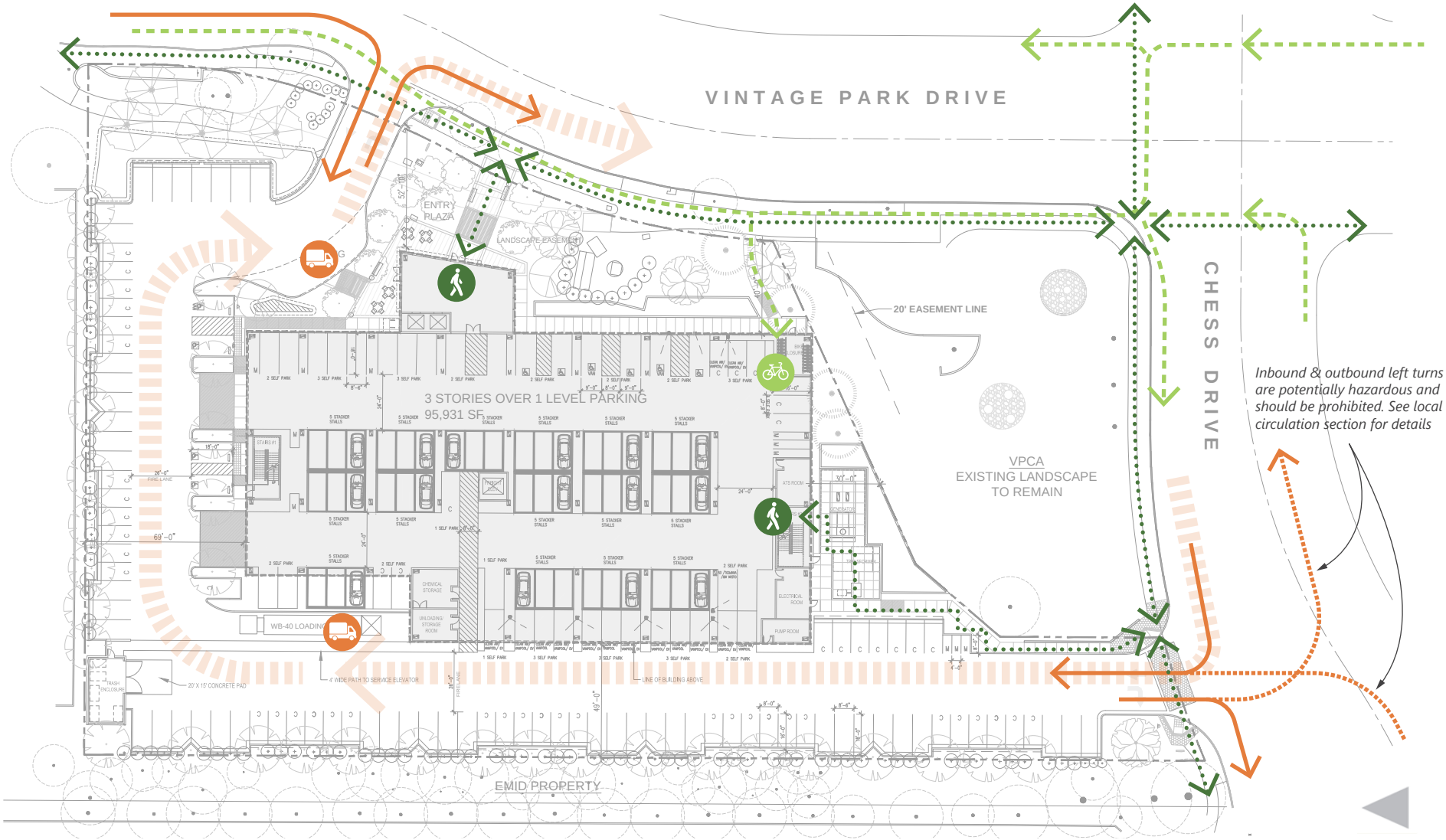
Foster City Municipal Code (FCMC) Chapter 17.62.090(A) requires one off-street loading space per each 50,000 square feet of gross leasable area while FCMC 17.62.080 requires that each loading space be a minimum of 12-feet wide by 35-feet long with 14-feet vertical clearance. The Project provides two loading spaces which meet the minimum number of spaces required. One space is provided at a loading dock

along the building's west edge and the second is provided near the Vintage Park Drive access point. Both spaces meet the minimum dimensions specified in the City's code.

Hazards and Emergency Vehicle Access

Drivers turning left from the Project driveway to eastbound Chess Drive may be unable to see eastbound vehicles approaching on Chess Drive due to roadway curvature, vegetation, and an electric transmission tower. Furthermore, this movement would conflict with westbound left turns from Chess Drive to the neighboring hotel and commercial uses on the south frontage of Chess Drive. This constitutes a potential hazard. The mitigations section notes that to reduce this impact to less-than-significant levels either the outbound left turn movement from the Chess Drive driveway shall be prohibited at all times or installation of suitable left turn lane channelization to minimize opposing inbound left turn conflicts. Suggested left turn channelization is depicted in **Figure 9**. The Vintage Park Drive driveway will adequately serve outbound drivers headed toward SR-92 and the east.

Project plans include fire truck turn templates that indicate that adequate clearance is provided for the "Foster City Fire Truck" design vehicle to enter and exit the site from both driveways and traverse the Project's surface parking lot without turning around. New vehicle trips from the Project are not anticipated to substantially worsen emergency vehicle response times.



Circulation Pathways

- Bicycle
- Pedestrian
- Commercial Vehicle
- Auto

Access Points

- Long-Term Bicycle Parking
- Pedestrian Building Entrances
- Loading Spaces

Figure 7

Site Circulation
388 Vintage Park Drive

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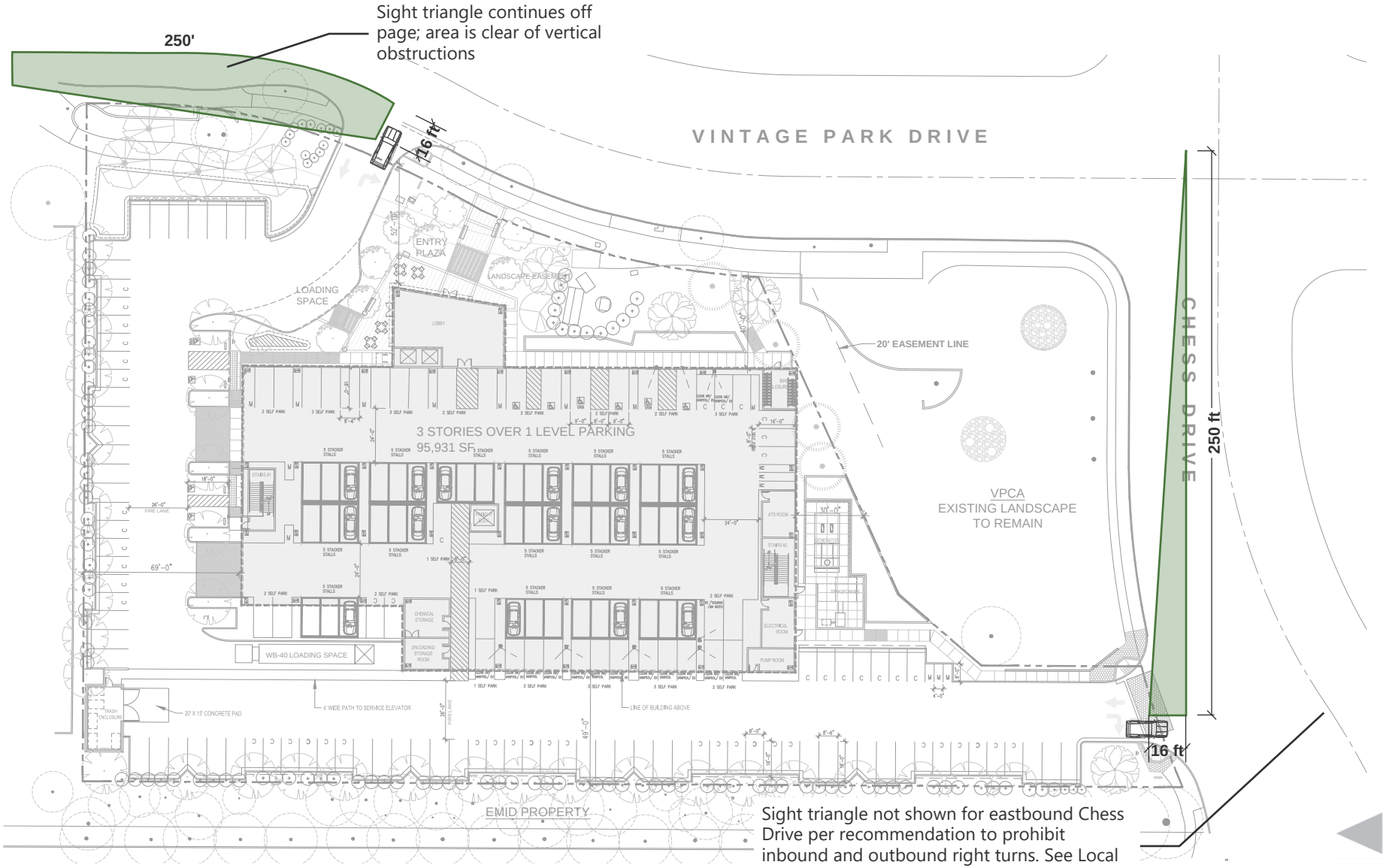

Note: 35mph stopping sight distance shown.

N:\Projects\2021_Projects\SF21-1167_Vintage Park Drive TIS\Graphics\AI\Figure8

Figure 8

Driveway Sight Distance
388 Vintage Park Drive

Impacts and Mitigations

This section includes the evaluation of the Project's potential impacts and improvement or mitigation measures. Where applicable, the Project's contribution to cumulative conditions is presented alongside the Project's effect on existing conditions.

Circulation System Consistency (Criterion 1)

Development of the proposed Project would not create a significant impact on the circulation system, as described below. However, one measure is recommended to improve pedestrian circulation adjacent to the Project site.

Transit Facilities

The Project would generate vehicle trips in the vicinity of existing transit services and would generate some new transit trips to existing routes. AC Transit, SamTrans, and Commute.org shuttles travel along the Project's frontage. The addition of 85 vehicle trips during the PM peak hour, or one to two new vehicles per minute, would not create a disruption to transit service surrounding the Project site. Project-added vehicle trips represent less than two percent of entering volumes at study intersections during the PM peak hour. Most people are expected to arrive by automobile to the Project as documented in the Project travel demand section, and the Project is not expected to generate a substantial number of new transit trips that would cause any transit route to require additional capacity. The Project would not include features that would disrupt existing or planned transit routes or facilities. The Project's driveways would not cause disruptions to existing or planned transit service or transit stops. The Project would not conflict with any adopted transit system plans, guidelines, policies, or standards. Therefore, impacts to transit facilities are anticipated to be less than significant.

Although traffic volumes would increase somewhat under cumulative conditions because of the cumulative projects, they would not include features that would disrupt existing or planned transit routes or facilities. They would not cause disruptions to existing or planned transit service or transit stops. The Project, in combination with other cumulative projects would not conflict with any adopted transit system plans, guidelines, policies, or standards. As such, there would be no cumulative impacts to transit.

Roadway Facilities

With the addition of Project trips, the intersections of Chess Drive/Foster City Boulevard, Chess Drive/SR-92 westbound ramps, Foster City Boulevard/Metro Center Boulevard, and Metro Center Boulevard/SR-92 eastbound ramps would continue to operate at an acceptable level of service with Project-added trips during the AM peak hour. During the PM peak hour, all intersections operate at the same level of service as under Existing Conditions, except the intersection of Chess Drive/SR-92 Westbound Ramps during the PM peak hour which would degrade from LOS D to LOS F. Adjusting the signal timing by transferring an additional three seconds to the eastbound through movement from the westbound approach would

reduce the average delay at this intersection to an acceptable LOS D. However, the City of Foster City's Policy LUC-F-1 notes that it will be necessary to accept level of service "E" or "F" at the SR-92 Westbound Ramps / Chess Drive. Therefore, the potential for Project vehicle trips to increase delay at this location would not conflict with the City's adopted policies and no action on the part of the Project is required. The City should monitor roadway conditions and signal operations as a part of routine maintenance and would adjust signal timings in the future as traffic conditions warrant. The intersections of Chess Drive/Foster City Boulevard, Foster City Boulevard/Metro Center Boulevard, and Metro Center Boulevard/SR-92 eastbound ramps continue to operate at unacceptable LOS E or F with the addition of Project trips, similar to existing conditions. Therefore, intersection operations under Existing Plus Project Conditions are anticipated to be consistent with standards set forth in the General Plan.

With the addition of Project-generated trips, all intersections would operate at the same level of service as under Cumulative No Project Conditions. During the AM peak hour, two study intersections would continue to operate at unacceptable LOS E or F with the addition of Project trips. During the PM peak hour, all four intersections would continue to operate at unacceptable LOS E or F with the addition of Project trips. Foster City General Plan Land Use and Circulation Policy LUC-F-1 states that it will be necessary to accept LOS E or F at this location. Therefore, intersection operations under Cumulative Plus Project Conditions are anticipated to be consistent with standards set forth in the General Plan.

Pedestrian and Bicycle Facilities

As noted in the Local Circulation section, the Project should, at minimum, upgrade all existing curb ramps at the site driveways to meet the City's accessibility standards. Best practice designs for pedestrian access recommend that the driveways be reconfigured from street-grade to sidewalk-grade driveways as a means to control motorist speed when crossing the sidewalk. The Project sponsor should evaluate this design with City staff to determine the feasibility and applicability. Although traffic volumes would increase somewhat under cumulative conditions because of the cumulative Projects, this would not create new hazards or interfere with accessibility for people walking or biking around the Project site. The Project, in combination with other cumulative Projects would not conflict with any adopted bicycle or pedestrian plans or policies. As such, there would be no cumulative impacts to pedestrian or bicycle facilities.

Parking and Loading

The Project would provide adequate loading spaces to meet City requirements. While the Project does not meet the City's parking requirements, the number of parking spaces would be adequate for the parking demand and therefore the Project is not anticipated to create a parking shortfall.

Vehicle Miles Traveled Impacts (Criterion 2)

As documented in the **Plus Project VMT** section, with the implementation of the proposed TDM plan, the Project would generate approximately 14.3 VMT per employee under existing conditions, which at the

significance threshold of 14.3 (based on a VMT rate of 15% below the county average of 16.8 HBW VMT per employee). Therefore, the Project would not have a significant impact on VMT.

Hazards (Criterion 3)

Impact TRANS-1: Development of the proposed Project has the potential to worsen an existing geometric design feature that could cause hazards. (Potentially *Significant; Less than Significant with Mitigation*)

The Project proposes two driveways that are approximately in the same location as the existing driveways (Chess Drive and Vintage Park Drive) and no roadway geometry changes are proposed along adjacent roadways. As shown on **Figure 8**, sight distance at the proposed driveways is expected to be adequate for drivers turning right out of both driveways provided that vegetation within the sight triangles is pruned to maintain clear sight lines. However, both inbound and outbound left turns at the Chess Drive driveway are potentially hazardous due to roadway curvature and conflicts with vehicles entering the neighboring commercial uses. Both inbound and outbound left turns should be prohibited to minimize potential conflicts. Except for the potentially hazardous inbound and outbound movement at the Chess Drive driveway, the Project is not expected to result in a substantial increase to hazards.

Improvement Measures:

During the project's design review process, the applicant and City of Foster City should evaluate the conversion of the Project's Chess Driveway to right-out only. This would match the driveway across the street and reduce conflicting movements in a substandard two-way left turn lane. Vehicles heading east on Chess Drive or south on Vintage Park can exit from the Vintage Park driveway.

Alternatively, constructing roadway improvements as shown in **Figure 9** would lessen potential conflicts and respond to the conditions described above. Improvements consist of side-by-side left turn lanes that are separated a hardscape median. The hardscape median lessens potential for conflicts from the opposing inbound left-turn movements while prohibiting outbound left turns from both driveways. Modification to the existing median include removing a tree and relocating a streetlight.

Implementing either of the above improvement measure would further reduce the potential impacts associated with hazards to less than significant hazards. The design of the improvements shall be completed by a qualified professional and approved by City official prior to permit issuance.

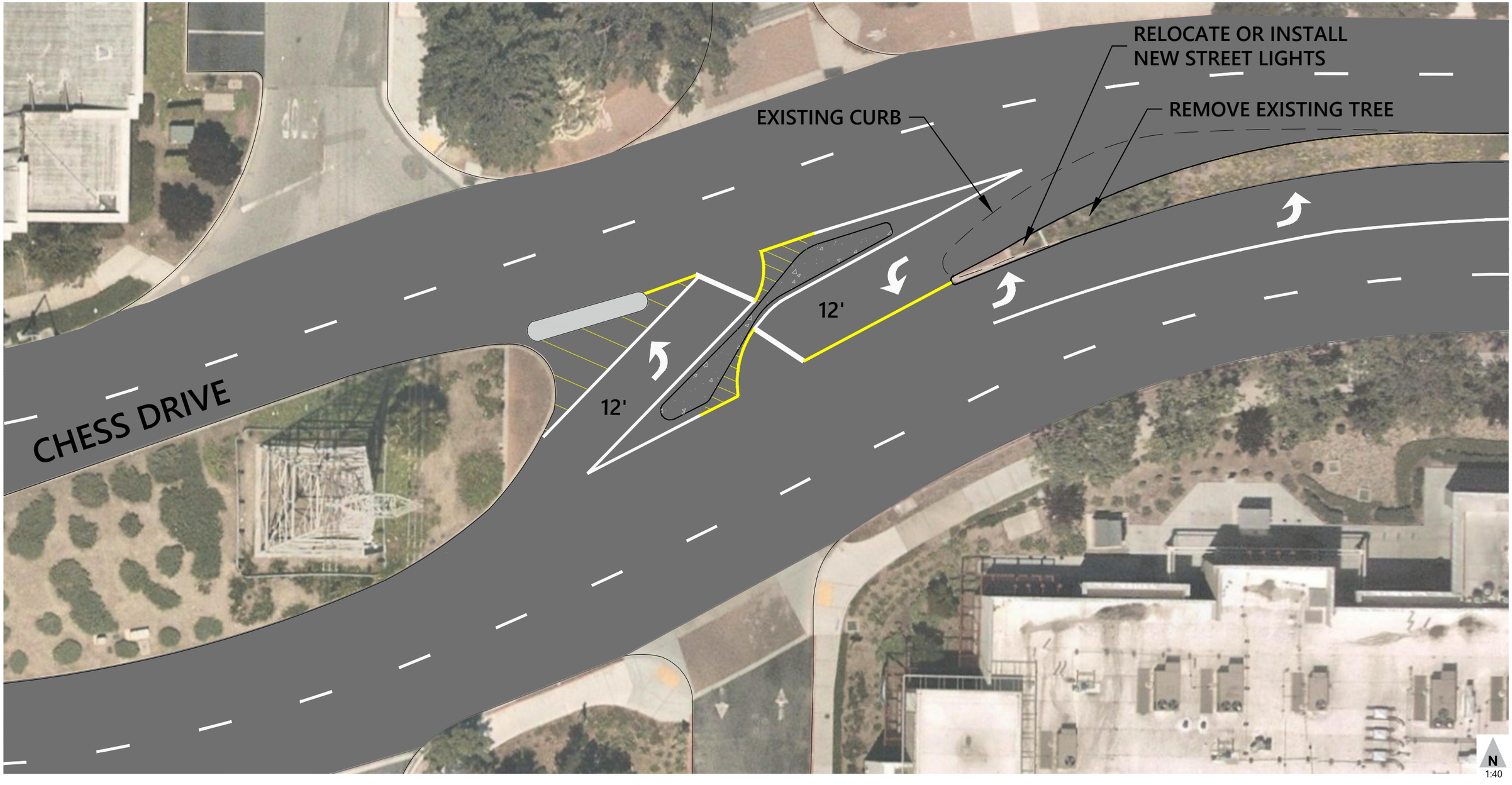

Figure 9

Turn Lane Concept Design
388 Vintage Park Drive

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Emergency Access (Criterion 4)

Vehicle trips generated by the Project would represent a very small percentage of overall daily and peak hour traffic on roadways and freeways in Foster City. During the PM peak hour, the Project generates 85 vehicle trips which are distributed to study intersections. Project-added vehicle trips represent less than two percent of entering volumes at study intersections during the PM peak hour. The Project does not include features that would alter emergency vehicle access routes or roadway facilities; fire and police vehicles would continue to have access to all facilities around the entire city. Upon construction, emergency vehicles would have full access to the Project site. Therefore, the Project is expected not to result in inadequate emergency access and impacts to emergency vehicle access are anticipated to be less than significant.

Appendices

Appendix A: VMT Threshold and Analysis Methods Memorandum

FEHR PEERS

Memorandum

Date: October 8, 2021

To: Sofia Mangalam, Planning Manager, City of Foster City

From: Katelyn Stangl and Matt Goyne, Fehr & Peers

Subject: VMT Threshold and Analysis Methods for the 388 Vintage Park Drive EIR

SF21-1167

California Senate Bill 743 (SB 743) requires California Environmental Quality Act (CEQA) assessment of a project's impact on vehicle miles traveled (VMT) in relation to state greenhouse gas (GHG) reduction planning goals, multimodal transportation, and land use diversity. Additionally, the California Governor's Office of Planning and Research (OPR) issued a technical advisory memorandum in December 2018 that includes general guidance and information for lead agencies to use in implementing SB 743. This memo describes a preliminary conceptual approach for assessing VMT under CEQA for 388 Vintage Park Drive (the project), establishes an ad hoc / interim VMT impact threshold, and analyzes the project's VMT per capita. Initial analysis of the project is then presented and assessed for VMT-based impacts.

Summary

Fehr & Peers has developed the following approach to assess VMT for 388 Vintage Park Drive under CEQA, and for use in analysis and assessment of impacts prior to the City's adoption of a general VMT impact threshold:

1. Determine if the project could potentially be screened from detailed VMT analysis based on relevant criteria identified in the OPR Technical Advisory.
2. Identify the existing average work-based VMT per employee in the nine-county Bay Area region and in San Mateo County using baseline year (2015) model runs of the C/CAG-VTA Bi-County Regional Travel Demand Model (C/CAG Model).
3. Establish an interim work-based VMT per employee threshold of 15 or 16.8 percent less than the existing work-based VMT per employee average for the nine-county Bay Area or for the County of San Mateo based on the C/CAG model. **The threshold and the geography are the two primary decisions required by Foster City.**

4. Assess the project's likely average VMT per employee using data from the C/CAG model for average work-based VMT per employee of existing development in the Vintage Park area of Foster City adjacent to the project site.
5. Compare the project's rate of home-based VMT per employee to the VMT threshold established in Step 3 of this process.

This approach would not involve developing a forecast for project VMT or the project's effect on VMT, but rather uses available VMT per employee data for existing employment uses in Foster City area as a proxy for the project.

The rationale behind the assumptions embedded in this preliminary conceptual approach is provided below. There are other approaches to VMT assessment — this is a new and evolving part of CEQA compliance. The advantages and disadvantages of this approach and other approaches are also discussed below.

This preliminary conceptual approach has been developed only for potential use for the evaluation of VMT for the 388 Vintage Park Drive EIR and is not intended to be used directly as a general endorsement of VMT evaluation methodology or thresholds for other projects in the City of Foster City.

This preliminary conceptual approach represents a potential path forward for the City's consideration and does not constitute legal advice on behalf of LSA or Fehr & Peers. The City is advised to consult legal counsel to obtain such legal advice.

Screening Approaches

The OPR Technical Guidance (2018) lists two screening approaches:

Location in an area of lower VMT: The OPR guidance lists a map-based screening approach articulating that residential and office projects located in areas with low VMT and that incorporate similar features (i.e., density, mix of uses, transit accessibility) will tend to exhibit similarly low VMT. This approach requires a VMT threshold to determine what is "low," but OPR says this approach may not need a detailed VMT analysis if the project is determined to be in a "low VMT" area.

Assessment: Use a regional travel demand model (MTC or C/CAG) to determine existing VMT in the project area TAZ and compare to threshold derived per threshold methodology, as discussed below. If the project area TAZ has existing VMT below the VMT threshold identified, document the result in the CEQA document as well as the substantial evidence for the VMT threshold and its derivation; reference the OPR guidance that no detailed VMT analysis is necessary. At present, if a regional or countywide base is used as the geography for the VMT assessment, the TAZ VMT

would not be below the conceptual VMT threshold in this memorandum and a detailed VMT analysis will be necessary for 388 Vintage Park Drive.

Proximity to transit: CEQA Guidelines Section 15064.3, subdivision (b) (1), states that "generally, projects within ½ mile of an existing major transit stop[1] or a stop along an existing high quality transit corridor[2] should be presumed to cause less-than-significant transportation impact." OPR (2018) advises that the less than significant presumption would not apply, however, if project-specific or location-specific information indicates the project will still generate significant levels of VMT.

Assessment: The project site is located approximately one mile from the Hayward Park and Hillsdale Caltrain Stations as the crow flies. However, the walking distance to each station from the project site is more than two miles. As such, the project should not be presumed to have a less-than-significant impact on the basis of transit proximity.

VMT Assessment Approach

The following key parameters for establishing a VMT evaluation approach are described in more detail in the sections below. Project-based environmental analysis of VMT should:

- Be based in a local or regional context;
- Use VMT that is related to the project type;
- Account for VMT in a way that accurately represents the project's effect on VMT; and
- Analyze potential impacts using a threshold that is related to state GHG reduction targets or other key transportation goals, and supported by substantial evidence.

[1] A "major transit stop" means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[2] A "high-quality transit corridor" means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

VMT Metric

OPR recommends office project VMT should be compared to a total work-based VMT/employee threshold. This metric helps compare the project's relative transportation efficiency to the regional average (i.e., all else being equal, does creating new employment in this area result in more or less VMT per employee than creating it in other areas?). Fehr & Peers recommends using home-based work VMT (HBW VMT)[3] per employee as the metric for analysis for this project.

Geographic Context

The geographic context could be a city, a county or an entire metropolitan region. OPR recommends using a regional or city geography for residential projects and a regional geography for an office project. For mixed-use projects, OPR recommends either evaluating each of the individual uses separately using the geography for each element, or only considering the project's dominant use. A metropolitan region would capture the full length of nearly all project trips; however, a highly diverse and large metropolitan region may be overly broad and may result in a comparison of a project to dissimilar regional aggregate land use conditions. A local city geography in a metropolitan region will not capture the full length of most project trips and may be too narrow to reflect a project's effect on VMT. A county level would be broader context than a city alone, but would not be as robust in evaluating the full interaction of a project in a regional setting; however, it would avoid comparison of a project to dissimilar regional aggregate land use conditions.

Conceptual Approach: Use the nine-county Bay Area region as the geography for the assessment or the County of San Mateo as the geography.

VMT Accounting Methodology

The VMT accounting method can be trip-based (based on project trips and lengths), tour-based (based on a chain of trips including multiple stops, not just outbound and inbound trips), or assess the project's effects on VMT by modifying a travel demand model to include the project's proposed land uses.

Conceptual Approach: OPR recommends the use of tour-based VMT accounting for residential and office projects and assessing the effect of a project on VMT for retail and transportation projects. However, this method would require the City to conduct a new model run using the MTC model, which is the sole tour-based travel demand model available for Foster City. The MTC model lacks the level of local detail for the roadway network and local land use present in the

[3] Home-based work VMT (HBW VMT) only accounts for commute trips and does not capture work-based other trips that may occur throughout the day (e.g., driving to lunch or to meetings during the middle of the day) due to differences in trip-based and tour-based models, as discussed in more detail under VMT Accounting Methodology. HBW VMT per employee is an appropriate metric to use since it is normalized and compared to similar baseline values.

C/CAG model; therefore, we recommend using work-based VMT per employee multiplied by the expected number of employees at the project site to reach an estimate of total VMT. The project's land use program is similar to existing land uses in the Vintage Park area, which allows for the use of existing per capita VMT data to reasonably assess project VMT.

VMT Impact Threshold

Lead agencies have the discretion to set their own thresholds of significance with the goals of the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold. OPR's guidance on thresholds is presented in the OPR Technical Advisory and the California Air Resources Board's (CARB) *2017 Scoping Plan – Identified VMT Reductions and Relationship to State Climate Goals*. The CARB analysis indicates that the VMT threshold would need to be 16.8 percent for automobile only VMT to achieve state GHG reduction goals. These points of reference are subject to change over time, however, depending on statewide forecasts of population and travel, as well as economic conditions (e.g. short-term and long-term effects of the COVID-19 pandemic).

Conceptual Approach: Use the threshold of 15 or 16.8 percent below the regional or countywide average, expressed as average work-based VMT per employee across the nine-county Bay Area.

VMT Analysis

The VMT analysis for this project is relatively straightforward, as the project has substantially similar land use characteristics and context to existing development in the Vintage Park area. The analysis presented below does not reflect a unique model run to assess the project; instead, it includes an estimate of HBW VMT per worker that uses rates at similar nearby developments.

The project will operate a transportation demand management (TDM) program to reduce driving by encouraging employees to commute by non-automotive forms of transportation. According to information provided by the project applicant, the project's TDM program will include strategies such as transit subsidies, participation in a transportation management association, carpooling and vanpooling incentives, and TDM marketing and coordination. Fehr & Peers conducted a preliminary assessment of the TDM plan and found it could be effective at reducing 10 percent of the project's VMT from employees commuting. Reductions from the TDM plan are included in the VMT analysis below.

Table 1 shows the average HBW VMT per employee based on the C/CAG model in the 2015 base year (the most recently available data). As shown, the Foster City area has an estimated HBW VMT per employee that is four percent higher than the regional average by five percent lower than the County average. After accounting for VMT reductions from the project's TDM plan, the project's

VMT per employee would be six percent lower than the Bay Area regional average and 15 percent lower than the County of San Mateo average. This would meet the goal of 15 percent below County of San Mateo threshold but would not meet the 15 or 16.8 percent below average thresholds discussed above.

Table 1: Home-Based Work VMT per Employee, by Location (2015 Estimates)

Location	Regional Threshold HBW VMT per Employee	County Threshold HBW VMT per Employee
Threshold Geography Average	15.4	16.8
Foster City Project Area	16.0	16.0
Foster City Project Area with 10% TDM Reduction	14.3	14.3
Percent Difference	**-6%**	**-15%**
Expected Project Impact on VMT?	**Yes**	**No**

Source: Fehr & Peers, 2021; C/CAG-VTA Bi-County Transportation Demand Model, 2021.

While the use of a travel demand model would most accurately assess the project's effect on regional VMT, an estimate of the project's effect on VMT (relative to employment growth in an "average" location) is shown in **Table 2**. The proposed project would result in approximately 213 new employees at the project site.[4] These 213 net new employees are expected to generate a weekday daily HBW VMT of 3,046 and a net decrease of 234 compared to if the employees were added in a theoretical Bay Area "average" location. In comparison to an "average" location in the County of San Mateo, the project would result in a net decrease of 533 VMT.

[4] The estimated number of employees is based on data provided by the project applicant.

Table 2: Home-Based Work VMT per Employee, by Location (2015 Estimates)

	Regional Threshold		County Threshold	
Location	**Average HBW VMT per Employee**	**HBW VMT for 213 New Employees**	**Average HBW VMT per Employee**	**HBW VMT for 213 New Employees**
Threshold Geography Average	15.4	3,280	16.8	3,578
Foster City Project Area with 10% TDM Reduction	14.3	3,046	14.3	3,046
Difference / Project's Effect on Regional HBW VMT		**- 234 average weekday HBW VMT**		**- 533 average weekday HBW VMT**

Source: Fehr & Peers, 2021; C/CAG-VTA Bi-County Transportation Demand Model, 2021.

Based on the above assessment, the project would be presumed to have a significant VMT impact with the Bay Area regional threshold and would not be presumed to have a significant VMT impact with a County of San Mateo threshold. Under the Bay Area regional threshold, the project would be required to implement various measures to reduce vehicle trip levels to the extent feasible. This would include measures extending beyond those included in the initial TDM plan and creating a monitoring program to ensure these measures are effective at reducing this impact to less-than-significant levels.

Appendix B: Trip Generation Methodology & Preliminary Results Memorandum

FEHR PEERS

Memorandum

Date: July 12, 2021

To: Sofia Mangalam, Planning Manager, City of Foster City

From: Katelyn Stangl and Matt Goyne, Fehr & Peers

Subject: Trip Generation Methodology & Preliminary Results for 388 Vintage Park Drive

SF21-1167

Trip Generation Methodology

The proposed project will consist of a 96,000 square foot life science/R&D office building. This land use is characterized by having a lower employee density than a typical office. A life science/R&D building would have an employee density near 1 per 450 square feet, while a typical office would have an employee density closer to 1 per 300 square feet. As life science/R&D offices have a lower employee density, they have a lower vehicle and person trip generation rate than a typical office. The proposed project description has included either 213 or 270 employees – this would lead to an employee density of 1 per 450 square feet (based on 213 employees on a typical day) or 1 per 360 square feet (based on 270 employees on a typical day).

To reflect the unique travel characteristics, business operations, and employment density associated with the proposed life science use, we compared trip generation rates from two sources: those included in the ITE *Trip Generation Manual* and local data collected from life science/R&D land uses along the San Francisco Peninsula. These sources included:

- ITE 710 General Office, per KSF. These trip generation rates reflect an employee density of roughly 1 per 340 square feet.
- ITE 710 General Office, per employee. Trip generation estimates were prepared with both 213 and 270 employees.
- Local trip generation rates based on three sample office and research and development (R&D) campus sites in the East of 101 area of South San Francisco that achieved a roughly 30 percent non-drive alone mode share. These sites had employee densities consistent with typical life science developments.

Preliminary Trip Generation Results

Trip generation rates and preliminary results are summarized in **Table 1**.

Table 1: Trip Generation Rates and Project Trips

Land Use	Trip Generation Unit	Project Size	Daily Rate	Daily Project Trips	AM Rate	AM Project Trips	PM Rate	PM Project Trips
ITE 710 General Office	Per KSF	96 KSF	9.74 per KSF	935	1.45 per KSF	139	1.50 per KSF	144
ITE 710 General Office	Per Employee	213 emp.	3.28 per emp.	699	0.37 per emp.	79	0.40 per emp.	85
ITE 710 General Office	Per Employee	270 emp.	3.28 per emp.	886	0.37 per emp.	100	0.40 per emp.	108
Local Life Sciences Data	Per KSF	96 KSF	5.08 per KSF	488	0.56 per KSF	54	0.50 per KSF	48

Source: Fehr & Peers, 2021.

Overall, using trip generation rates based on local data would result in the lowest trip generation rates, whereas using ITE General Office rates per KSF would result in the highest trip generation results. The most appropriate rate would depend on the final proposed employee density for the site and an estimate of the site's final mode share – if the site has a daily occupancy of 213 employees and a 70 percent drive alone share is feasible, then the local life sciences data would be the best match for the project site. Under the draft Transportation Demand Management (TDM) guidelines for San Mateo County, any large office project (more than 50,000 square feet) would be required to achieve a vehicle trip reduction of 35 percent, which would approximately equal the driving mode share at the local data sites. However, if the site has a higher daily density of employees (i.e., a daily occupancy of 270 employees) and it is infeasible to meet this lower driving mode share, the ITE trip generation rates would be more suitable for the site.

Appendix C: Transportation Demand Management Plan Evaluation

FEHR PEERS

Memorandum

Date: October 18, 2021

To: Sofia Mangalam, Planning Manager, City of Foster City

From: Katelyn Stangl and Matt Goyne, Fehr & Peers

Subject: Transportation Demand Management Plan Evaluation for 388 Vintage Park Drive

SF21-1167

New developments in the City of Foster City ("the City") are required to prepare transportation demand management (TDM) plans. These plans outline strategies and policies to reduce single-occupancy vehicle trips and vehicle miles traveled. This memo evaluates the proposed TDM plan for 388 Vintage Park Drive ("the Project"), a proposed new life sciences office development in the City, for CEQA and C/CAG CMP compliance purposes. This Project is required to reduce VMT by 10 percent to have a less than significant impact under SB 743. Based on this assessment, the Project's TDM plan could reduce 10 percent of Project home-based work VMT per employee, allowing it to reduce VMT to a less than significant level.

Policy Context

New developments are subject to SB 743, which requires California Environmental Quality Act (CEQA) assessment of a project's impact on vehicle miles traveled (VMT) in relation to state greenhouse gas (GHG) reduction planning goals, multimodal transportation, and land use diversity. TDM strategies can be used to reduce a project's VMT impacts.

Additionally, as of the summer of 2021, the City/County Association of Government of San Mateo County (C/CAG) is in the process of updating its Transportation Demand Management (TDM) guidelines (the TDM Policy Update). Under the new guidelines, a new office building larger than 50,000 square feet would be considered a "large" project and be required to provide TDM strategies to reduce at least 35 percent of vehicle trips. Large office developments would be required to implement a core set of TDM strategies and would be required to implement supplementary TDM strategies sufficient to meet the project's vehicle trip reduction goal. When adopted, these guidelines would apply to all C/CAG member jurisdictions for compliance with the

San Mateo County Congestion Management Plan (CMP), which is anticipated to occur during the EIR preparation process for the Project.

Project Background

The Project consists of a 95,913 square foot life sciences office with a daily employee population of 213 people and 180 parking spaces. The Project has prepared a TDM plan to reduce the number of vehicle trips and overall VMT generated by the Project.

The Project TDM plan includes the following measures:

- Free or preferential parking for carpools (14 spaces)
- Designated TDM coordinator
- Active participation in Commute.org, a Transportation Management Association (TMA) serving San Mateo County. Commute.org provides access to the following services: commute assistance and ride-matching, first/last mile shuttles, guaranteed ride home, and educational materials
- A carpool or vanpool program registered with Commute.org
- Transit passes, subsidized transit passes, or carpool/vanpool incentives equal in value to 30 percent of the monthly fare value or $50[1]
- Pre-tax transit program to allow employees to use pre-tax income to pay for commute costs
- Secure bicycle storage
- Showers and changing rooms for those walking or biking to work
- Reduced parking relative to parking minimums in the City

The Project site benefits from proximity to local shuttle service from Commute.org providing connections to regional rail such as BART and Caltrain. The Mariners' Island Shuttle connects to the Belmont Caltrain station and the North Foster City Shuttle connects to the Millbrae Intermodal Transit Station, with BART and Caltrain access. Additionally, nearby transit stops are serviced by two as two SamTrans bus routes (the 251 and 256) and the AC Transit M Line[2]. Access to these shuttle or bus service would be necessary for Project employees to travel to the site via regional transit, as the Project site is not walkable to the nearest regional rail stations (Hillsdale and Hayward Caltrain stations).

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[1] It is unspecified if $50 represents the maximum subsidy or the minimum subsidy – this distinction could affect the effectiveness of this TDM measure. The analysis presented below assumes that 30 percent of the commute costs would be subsidized.

[2] The M Line was suspended at the onset of the COVID-19 pandemic and service has not yet resumed. It is unclear if or when the M Line will return to service.

Evaluation

CEQA

Fehr & Peers evaluated the potential effectiveness of the proposed TDM measures using TDM+, a tool based on Quantifying Greenhouse Gas Mitigation Measures, a report for the California Air Pollution Control Officer's Association (CAPCOA) produced in 2021. These estimates are widely accepted as the best available information on how TDM measures can affect vehicle miles traveled, greenhouse gas emissions, and overall vehicle trips to or from a site.

To reduce the Project VMT impact to less than significant,[3] the Project would need to achieve a minimum reduction of 10 percent. Based on this assessment, the Project's TDM plan could reduce 10 percent[4] of Project home-based work VMT per employee, allowing it to reduce VMT to a less than significant level. VMT reduction per TDM measure and overall VMT reductions are depicted in ***Figure 1***.[6]

The amount of VMT generated by employees is related to the amount of parking provided. The project is located in a suburban setting where people expect that parking will be available and free at one's origin and destination, which makes driving a more attractive, convenient transportation option compared to other modes. Constraining the amount of on-site parking below the typical parking demand can reduce VMT by making driving less convenient and other modes more attractive. The Project will have sufficient parking for up to 85% of its 213 employees to commute by single-occupancy vehicle. This is higher than typical commute driving rates in the city – in the 2019 census, 72 percent of employees working in the City commuted by driving alone.[8] Additionally, parking generation was estimated using per employee parking generation rates from the ITE *Parking Generation Manual, 5th Edition* for General Office (710). Using those parking generation rates (0.84 per employee), the Project would generate a peak hour demand of 179 parking stalls.[9] Therefore, the amount of parking provided by the project would be in excess of the parking demand and is not anticipated to reduce the VMT generated by the project.

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[3] This is based on a threshold of producing VMT at 15 percent below the average VMT for the county of San Mateo. Without any TDM measures, the Project would generate VMT at a level of 5% below the county average.

[4] The Project applicant estimated that their TDM plan would be sufficient to reduce VMT by 16.9%. Their analysis was prepared using the CAPCOA Quantifying Greenhouse Gas Mitigation Measures report from 2010. VMT reductions in the new edition of the report have been updated to reflect new research on the impact of TDM measures.

[6] TDM+ provides a range of VMT reductions for each TDM measure. The lower estimate indicates a conservative estimate, suitable for use in environmental documents. The higher estimate indicates a potential upper limit to reductions and would require a very high level of support, marketing, and investment in most cases.

[8] American Community Survey, 2019.

[9] This accounts for parking demand from employees and visitors.

Figure 1. TDM+ VMT Reduction Summary Report

TDM Reduction Summary Report: 388 Vintage Park Drive TIA
Overall VMT Reduction: 10% to 34%

	VMT % Reduction by Land Use
Parking	
Parking1A: Increased Off-Street Fees	
Parking1B: Increased On-Street Fees	
Parking1D: Unbundled Parking	
Parking1E: Pay-as-you-Go Parking Rates	
Parking 2: Parking Supply	up to -3%
Transit	
Transit 1: Subsidies	
Transit 2A: Transit Frequency	
Transit 2B: Transit Coverage	
Transit 3A: Private Point-to-Point Shuttles	-
Transit 3B: Last Mile Shuttle	4% to 10%
Commute Programs	
Commute 1A: Commuter Incentives	up to 7%
Commute 2: Commute Marketing Program	4% to 13%
Commute 3: ERH	up to 2%
Commute 4: TNC Partnerships	
Bike and Walk	
BikeWalk1: Secure Parking	-
BikeWalk2: Showers & Lockers	-
BikeWalk3: End of Trip Repair Stations	
BikeWalk 4: Pedestrian-Oriented Design	
BikeWalk 5: Bikeshare System & Subsidies	
Rideshare	
Rideshare 1: Carpool/Vanpool Incentives	
Rideshare 2: Ridematch Program	2% to 10%
Rideshare 3: Carshare	
Rideshare 4: Carshare Subsidy	
Total	
Total of all Measures	10% to 34%

Prepared by Fehr Peers
using TDM+ 2019

Report generated on 10/8/2021

C/CAG CMP Compliance

Finally, Fehr & Peers evaluated the Project using C/CAG's TDM Policy Update guidelines. The table below lists the required and optional TDM measures for a new large office development as well as their potential for vehicle trip reduction. A new large office development must reduce at least 35% of vehicle trips.

Table 1: C/CAG Required and Optional TDM Measures under the Draft TDM Policy Update

TDM Measure	C/CAG's Vehicle Trip Reduction Value	Included in 388 Vintage Park Drive TDM Plan?
Required TDM Measures		
Free/Preferential Parking for Carpools	1.0%	**Yes**
TDM Coordinator/Contact Person	0.5%	**Yes**
Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent	16.5%	**Yes**
Carpool or Vanpool Program	2.0%	**Yes**
Transit or Ridesharing Passes/Subsidies	10.0%	**Yes**
Pre-Tax Transportation Benefits	1.0%	**Yes**
Secure Bicycle Storage	1.0%	**Yes**
Showers, Lockers, and Changing Rooms for Cyclists	2.0%	**Yes**
Design Streets to Encourage Bike/Ped Access	1.0%	No[1]
Additional Recommended TDM Measures		
Flex Time, Compressed Work Week, Telecommute	5.0%	No
Paid Parking at Market Rate	25.0%	No
Short Term Daily Parking	2.0%	No
Reduced Parking	10.0%	**Yes[2]**
Developer TDM Fee / TDM Fund	4.0%	No
Car Share On-Site	1.0%	No
Land Dedication or Capital Improvements for Transit	4.0%	No
Shuttle Program/Shuttle Consortium/Fund Transit Service	10.0%	No
Bike/Scooter Share On-Site	1.0%	No
Active Transportation Subsidies	2.0%	No
Gap Closure	7.0%	No
Bike Repair Station	0.5%	No
Pedestrian Oriented Uses & Amenities on Ground Floor	3.0%	No

Table 1: C/CAG Required and Optional TDM Measures under the Draft TDM Policy Update

TDM Measure	C/CAG's Vehicle Trip Reduction Value	Included in 388 Vintage Park Drive TDM Plan?
Project Vehicle Trip Reduction Value	***44%[3]***	

Notes:
1. The Project sponsor indicated that the Project would qualify for this measure due to the proximity of a Class II bicycle lane within a half mile of the Project site. Of the two roadways adjacent to the Project, Vintage Park Drive is a designated Class III bike route and Chess Drive has a Class II bike lane. However, due to the number of lanes and vehicular speed limits, as noted in the Foster City Bicycle Network Assessment (2017), both roads would be classified as high stress (Level of Traffic Stress, or LTS, 4). High stress bikeways are only tolerated by a few: primarily those who could be described as "strong and fearless" – those comfortable riding under any conditions (about 7% of the population). Additionally, the C/CAG requirements note that other criteria could include direct pedestrian connections to transit and a front setback of less than 20 feet. The Project entrance is approximately 38 feet from the sidewalk.
2. Parking reductions qualify if the Project provides off-street private parking at least 10% below local zoning code required minimums, on a per unit or square foot basis. The Project would provide less parking than required under City parking requirements (256 required; 180 proposed).
3. These calculations differ from the CEQA VMT reductions described above as these calculations are based on planning-level vehicle trip reduction estimates for compliance purposes with San Mateo County's Congestion Management Plan and are not applicable for CEQA reductions.
Source: Fehr & Peers, 2021.

Overall, the TDM plan would reduce 44% of vehicle trips – more than its goal of 35%. Under the TDM Policy Update, the Project TDM plan would be adequate to satisfy its TDM requirements.

Conclusions

The TDM plan proposed by the Project would be sufficient to reduce Project VMT below its VMT impact threshold and would be adequate to meet the requirements under the C/CAG TDM Policy Update.

Appendix D: Vehicle Volumes for Existing and Cumulative Conditions

Table D-1: Existing Vehicle Volumes

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	389	35	731	2	16	5	1	130	122	708	192	11
Chess Drive/Foster City Blvd	819	893	194	3	299	67	322	61	480	19	25	4
Foster City Blvd/ Metro Center Blvd	131	955	66	137	467	194	457	183	446	52	85	494
Metro Center Blvd/ SR-92 Eastbound Ramps	2	2	21	942	48	441	61	123	4	37	177	196

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	389	35	731	2	16	5	1	130	122	708	192	11
Chess Drive/Foster City Blvd	819	893	194	3	299	67	322	61	480	19	25	4
Foster City Blvd/ Metro Center Blvd	131	955	66	137	467	194	457	183	446	52	85	494
Metro Center Blvd/ SR-92 Eastbound Ramps	2	2	21	942	48	441	61	123	4	37	177	196

Table D-2: Existing Plus Project Vehicle Volumes

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	389	35	744	2	16	5	1	135	128	708	203	11
Chess Drive/Foster City Blvd	820	893	194	3	299	77	324	61	483	19	25	4
Foster City Blvd/ Metro Center Blvd	131	956	66	137	467	197	457	183	446	52	85	494
Metro Center Blvd/ SR-92 Eastbound Ramps	2	2	21	942	48	441	61	123	31	37	177	199

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	77	2	200	10	20	4	0	287	809	912	178	1
Chess Drive/Foster City Blvd	692	207	19	2	1,026	238	48	13	433	107	161	4
Foster City Blvd/ Metro Center Blvd	228	547	64	198	616	752	103	130	153	62	115	268
Metro Center Blvd/ SR-92 Eastbound Ramps	2	49	21	108	4	44	504	257	13	8	101	986

Table D-3: Cumulative (2040) Vehicle Volumes

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	614	40	1,060	10	20	10	10	220	140	755	223	20
Chess Drive/Foster City Blvd	858	1,157	400	60	320	80	500	200	590	60	60	10
Foster City Blvd/ Metro Center Blvd	201	1,130	80	160	600	210	775	290	490	60	150	510
Metro Center Blvd/ SR-92 Eastbound Ramps	10	10	30	1,290	50	460	103	235	10	40	281	240

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	104	10	250	20	30	10	10	310	880	1,177	235	10
Chess Drive/Foster City Blvd	771	270	90	10	1,180	290	50	40	490	250	360	50
Foster City Blvd/ Metro Center Blvd	321	620	100	210	830	880	211	310	220	70	180	300
Metro Center Blvd/ SR-92 Eastbound Ramps	10	50	30	280	10	70	614	431	10	10	231	1,140

Table D-4: Cumulative Plus Project (2040)

AM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	614	40	1,073	10	20	10	10	225	146	755	234	20
Chess Drive/Foster City Blvd	859	1,157	400	60	320	90	502	200	593	60	60	10
Foster City Blvd/ Metro Center Blvd	201	1,131	80	160	600	213	775	290	490	60	150	510
Metro Center Blvd/ SR-92 Eastbound Ramps	10	10	30	1,290	50	460	103	235	37	40	281	243

PM Peak

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Chess Drive/SR-92 Westbound Ramps	104	10	253	20	30	10	10	335	909	1,177	238	10
Chess Drive/Foster City Blvd	771	270	90	10	1,180	293	60	40	505	250	360	50
Foster City Blvd/ Metro Center Blvd	321	620	100	210	831	894	211	310	220	70	180	300
Metro Center Blvd/ SR-92 Eastbound Ramps	10	50	30	280	10	70	614	431	17	10	231	1,154

Appendix E: Level of Service and Vehicle Queuing Results

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	389	392	100.8%	47.8	4.0	D
	Through	35	33	93.4%	53.3	10.7	D
	Right Turn	731	736	100.6%	2.7	0.7	A
	Subtotal	1,155	1,160	100.5%	20.1	2.4	C
SB	Left Turn	2	2	85.0%	24.6	42.7	C
	Through	16	17	107.5%	65.5	18.9	E
	Right Turn	5	4	84.0%	5.3	6.1	A
	Subtotal	23	23	100.4%	57.6	19.4	E
EB	Left Turn	1	1	110.0%	23.0	31.9	C
	Through	130	136	104.7%	62.1	8.8	E
	Right Turn	122	126	103.5%	25.5	3.4	C
	Subtotal	253	264	104.2%	45.0	4.9	D
WB	Left Turn	708	727	102.6%	6.4	1.4	A
	Through	192	194	101.1%	4.2	1.2	A
	Right Turn	11	11	100.9%	1.5	1.6	A
	Subtotal	911	932	102.3%	5.9	1.2	A
Total		2,342	2,379	101.6%	17.8	1.7	B

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	819	844	103.0%	25.1	3.5	C
	Through	893	908	101.6%	10.9	2.1	B
	Right Turn	194	200	102.9%	11.4	3.3	B
	Subtotal	1,906	1,951	102.4%	17.1	2.5	B
SB	Left Turn	3	4	116.7%	21.4	30.6	C
	Through	299	300	100.2%	51.7	4.8	D
	Right Turn	67	66	99.0%	29.9	7.1	C
	Subtotal	369	370	100.1%	47.4	3.9	D
EB	Left Turn	322	328	101.7%	42.0	4.8	D
	Through	61	61	100.3%	41.6	7.7	D
	Right Turn	480	486	101.2%	2.3	0.8	A
	Subtotal	863	875	101.3%	20.4	2.0	C
WB	Left Turn	19	18	92.6%	62.9	25.3	E
	Through	25	23	90.8%	51.3	14.8	D
	Right Turn	4	4	95.0%	4.9	4.9	A
	Subtotal	48	44	91.9%	51.8	14.9	D
Total		3,186	3,239	101.7%	22.2	1.5	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	95.0%	12.3	26.0	B
	Through	2	2	115.0%	28.9	38.2	C
	Right Turn	21	25	119.0%	10.5	1.2	B
	Subtotal	25	29	116.8%	15.7	8.5	B
SB	Left Turn	942	961	102.0%	11.5	1.0	B
	Through	48	47	98.8%	11.2	4.6	B
	Right Turn	441	445	101.0%	4.7	0.9	A
	Subtotal	1,431	1,453	101.5%	9.5	0.8	A
EB	Left Turn	61	64	104.9%	56.1	6.5	E
	Through	123	126	102.6%	48.0	4.3	D
	Right Turn	4	5	120.0%	17.0	29.9	B
	Subtotal	188	195	103.7%	50.3	4.8	D
WB	Left Turn	37	39	104.3%	58.3	7.9	E
	Through	177	181	102.1%	41.0	5.2	D
	Right Turn	196	194	99.1%	3.8	0.7	A
	Subtotal	410	414	100.9%	26.6	3.3	C
Total		2,054	2,091	101.8%	16.8	0.7	B

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	131	134	102.6%	63.8	12.1	E
	Through	955	980	102.6%	37.0	2.5	D
	Right Turn	66	66	100.2%	29.5	5.9	C
	Subtotal	1,152	1,180	102.5%	39.5	3.2	D
SB	Left Turn	137	135	98.8%	75.2	7.0	E
	Through	467	473	101.3%	18.1	3.5	B
	Right Turn	194	193	99.3%	4.3	1.6	A
	Subtotal	798	801	100.4%	24.4	2.0	C
EB	Left Turn	457	474	103.7%	35.3	4.3	D
	Through	183	185	101.0%	27.6	3.3	C
	Right Turn	446	453	101.5%	21.9	3.4	C
	Subtotal	1,086	1,111	102.3%	28.6	2.9	C
WB	Left Turn	52	48	93.1%	55.0	14.8	E
	Through	85	88	102.9%	58.8	19.5	E
	Right Turn	494	499	101.0%	29.0	9.9	C
	Subtotal	631	635	100.6%	35.0	11.0	C
Total		3,667	3,728	101.7%	32.4	2.3	C

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	77	76	99.1%	44.9	7.4	D
	Through	2	2	85.0%	7.2	18.0	A
	Right Turn	197	195	98.8%	30.4	35.0	C
	Subtotal	276	273	98.8%	35.6	24.7	D
SB	Left Turn	10	9	93.0%	55.8	33.8	E
	Through	20	22	111.0%	59.0	15.4	E
	Right Turn	4	5	120.0%	9.3	13.2	A
	Subtotal	34	36	106.8%	58.1	18.5	E
EB	Left Turn						
	Through	262	252	96.0%	143.6	92.0	F
	Right Turn	780	768	98.5%	51.8	19.8	D
	Subtotal	1,042	1,020	97.8%	73.9	34.7	E
WB	Left Turn	912	927	101.6%	11.6	2.1	B
	Through	175	174	99.5%	10.5	3.5	B
	Right Turn	1	2	160.0%	0.2	0.5	A
	Subtotal	1,088	1,103	101.4%	11.4	2.1	B
Total		2,440	2,431	99.6%	41.0	15.0	D

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	692	731	105.6%	45.7	6.9	D
	Through	207	213	102.8%	13.6	4.2	B
	Right Turn	19	20	107.4%	14.4	10.5	B
	Subtotal	918	964	105.0%	37.9	5.8	D
SB	Left Turn	2	2	85.0%	54.6	115.4	D
	Through	1,026	910	88.7%	372.2	67.3	F
	Right Turn	235	211	89.7%	228.0	30.3	F
	Subtotal	1,263	1,122	88.9%	343.0	60.7	F
EB	Left Turn	38	36	95.5%	50.9	14.1	D
	Through	13	14	104.6%	75.3	39.0	E
	Right Turn	418	383	91.7%	250.2	77.4	F
	Subtotal	469	433	92.4%	224.2	68.6	F
WB	Left Turn	107	97	90.7%	196.0	36.3	F
	Through	161	154	95.9%	44.9	9.5	D
	Right Turn	4	3	77.5%	12.0	18.4	B
	Subtotal	272	255	93.6%	103.5	20.5	F
Total		2,922	2,774	94.9%	197.8	33.1	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	100.0%	9.1	19.6	A
	Through	49	51	104.3%	87.7	11.1	F
	Right Turn	21	25	119.5%	9.8	1.8	A
	Subtotal	72	78	108.6%	59.1	12.4	E
SB	Left Turn	108	110	101.8%	30.2	4.2	C
	Through	4	4	87.5%	11.8	21.0	B
	Right Turn	44	51	116.8%	10.3	2.9	B
	Subtotal	156	165	105.6%	23.6	3.7	C
EB	Left Turn	504	479	95.1%	301.7	68.9	F
	Through	257	255	99.3%	62.8	46.0	E
	Right Turn	6	7	108.3%	43.1	77.9	D
	Subtotal	767	741	96.6%	221.3	57.7	F
WB	Left Turn	8	7	90.0%	50.9	38.5	D
	Through	101	94	93.0%	56.4	19.8	E
	Right Turn	972	923	94.9%	94.5	4.6	F
	Subtotal	1,081	1,024	94.7%	90.9	5.8	F
Total		2,076	2,007	96.7%	133.1	22.1	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	228	238	104.3%	73.2	8.8	E
	Through	547	576	105.4%	20.3	2.5	C
	Right Turn	64	63	98.8%	17.0	5.2	B
	Subtotal	839	878	104.6%	34.4	3.0	C
SB	Left Turn	198	174	87.8%	82.7	8.1	F
	Through	615	542	88.1%	51.6	11.0	D
	Right Turn	738	663	89.8%	150.3	18.6	F
	Subtotal	1,551	1,379	88.9%	103.8	10.0	F
EB	Left Turn	103	109	106.1%	46.2	7.8	D
	Through	130	129	99.2%	44.6	9.6	D
	Right Turn	153	151	98.6%	28.0	6.5	C
	Subtotal	386	389	100.8%	38.5	6.2	D
WB	Left Turn	62	62	99.4%	50.0	9.4	D
	Through	115	123	106.6%	77.5	6.2	E
	Right Turn	268	278	103.6%	15.7	2.6	B
	Subtotal	445	462	103.8%	36.8	4.3	D
Total		3,221	3,107	96.5%	66.2	4.1	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	614	603	98.2%	106.2	26.6	F
	Through	40	41	101.3%	122.3	39.6	F
	Right Turn	1,060	1,011	95.4%	49.2	13.6	D
	Subtotal	1,714	1,655	96.5%	72.4	16.5	E
SB	Left Turn	10	9	93.0%	59.7	30.1	E
	Through	20	21	106.0%	55.3	20.2	E
	Right Turn	10	13	133.0%	14.6	8.8	B
	Subtotal	40	44	109.5%	46.5	15.3	D
EB	Left Turn	10	8	83.0%	299.0	162.1	F
	Through	220	195	88.6%	353.2	51.2	F
	Right Turn	140	142	101.3%	22.7	5.2	C
	Subtotal	370	345	93.3%	219.1	27.8	F
WB	Left Turn	755	749	99.2%	7.2	2.3	A
	Through	223	217	97.4%	6.3	1.6	A
	Right Turn	20	21	102.5%	2.2	2.1	A
	Subtotal	998	987	98.9%	6.9	2.0	A
Total		3,122	3,030	97.1%	69.1	11.5	E

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	858	858	100.0%	28.8	6.7	C
	Through	1,157	1,117	96.6%	25.7	3.1	C
	Right Turn	400	399	99.8%	19.7	2.7	B
	Subtotal	2,415	2,374	98.3%	25.8	3.9	C
SB	Left Turn	60	63	104.5%	52.3	7.5	D
	Through	320	325	101.7%	51.2	4.3	D
	Right Turn	80	73	91.8%	27.3	7.0	C
	Subtotal	460	462	100.3%	47.5	2.6	D
EB	Left Turn	500	469	93.8%	57.5	4.2	E
	Through	200	188	93.9%	75.0	8.4	E
	Right Turn	590	552	93.6%	10.4	3.6	B
	Subtotal	1,290	1,209	93.7%	40.4	5.7	D
WB	Left Turn	60	54	89.8%	48.7	3.4	D
	Through	60	55	92.2%	52.1	11.6	D
	Right Turn	10	8	77.0%	12.2	7.8	B
	Subtotal	130	117	89.9%	47.5	6.5	D
Total		4,295	4,162	96.9%	33.2	2.9	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	101.0%	47.2	32.4	D
	Through	10	11	108.0%	62.1	23.4	E
	Right Turn	30	32	106.0%	9.7	0.7	A
	Subtotal	50	53	105.4%	34.2	7.0	C
SB	Left Turn	1,290	1,268	98.3%	60.9	37.6	E
	Through	50	49	98.2%	61.9	34.2	E
	Right Turn	460	451	98.0%	33.1	44.7	C
	Subtotal	1,800	1,768	98.2%	54.3	38.9	D
EB	Left Turn	103	102	98.9%	55.2	8.5	E
	Through	235	246	104.7%	44.7	6.3	D
	Right Turn	10	10	102.0%	16.5	10.8	B
	Subtotal	348	358	102.9%	46.9	5.5	D
WB	Left Turn	40	36	90.8%	57.4	11.5	E
	Through	281	261	93.0%	38.9	4.3	D
	Right Turn	240	231	96.3%	5.0	0.9	A
	Subtotal	561	529	94.3%	25.0	1.9	C
Total		2,759	2,708	98.1%	47.6	26.3	D

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	201	203	100.8%	141.7	89.9	F
	Through	1,130	1,144	101.3%	48.0	5.6	D
	Right Turn	80	83	103.3%	37.3	8.0	D
	Subtotal	1,411	1,430	101.3%	62.5	17.0	E
SB	Left Turn	160	154	96.1%	70.1	13.4	E
	Through	600	579	96.6%	34.8	3.2	C
	Right Turn	210	197	93.7%	9.7	3.1	A
	Subtotal	970	930	95.9%	36.3	3.4	D
EB	Left Turn	775	777	100.3%	56.9	11.1	E
	Through	290	281	96.8%	39.3	6.4	D
	Right Turn	490	489	99.8%	23.1	3.5	C
	Subtotal	1,555	1,547	99.5%	43.4	7.7	D
WB	Left Turn	60	48	80.5%	132.1	15.6	F
	Through	150	130	86.5%	145.2	12.7	F
	Right Turn	510	444	87.1%	120.4	8.5	F
	Subtotal	720	622	86.4%	126.5	8.9	F
Total		4,656	4,528	97.3%	58.7	6.1	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	104	101	96.7%	58.3	37.3	E
	Through	10	9	91.0%	167.8	180.0	F
	Right Turn	250	220	88.1%	277.2	165.0	F
	Subtotal	364	330	90.6%	213.4	121.3	F
SB	Left Turn	20	19	96.0%	91.9	38.4	F
	Through	30	32	107.7%	59.3	10.2	E
	Right Turn	10	13	131.0%	22.2	16.0	C
	Subtotal	60	65	107.7%	63.1	12.7	E
EB	Left Turn	10	6	60.0%	571.6	262.7	F
	Through	310	209	67.5%	585.5	112.5	F
	Right Turn	880	650	73.9%	416.7	81.1	F
	Subtotal	1,200	866	72.2%	459.9	91.2	F
WB	Left Turn	1,177	1,063	90.3%	14.5	1.2	B
	Through	235	215	91.4%	14.2	1.5	B
	Right Turn	10	9	86.0%	12.6	7.5	B
	Subtotal	1,422	1,287	90.5%	14.4	1.2	B
Total		3,046	2,547	83.6%	180.6	25.7	F

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	771	735	95.4%	85.6	33.4	F
	Through	270	258	95.6%	19.3	4.1	B
	Right Turn	90	88	97.4%	5.4	1.1	A
	Subtotal	1,131	1,081	95.6%	63.0	23.5	E
SB	Left Turn	10	8	75.0%	295.8	114.7	F
	Through	1,180	790	66.9%	458.8	57.9	F
	Right Turn	290	206	71.0%	263.8	24.1	F
	Subtotal	1,480	1,003	67.8%	414.3	48.6	F
EB	Left Turn	50	39	78.6%	59.5	17.4	E
	Through	40	30	75.5%	152.9	65.1	F
	Right Turn	490	335	68.3%	350.0	70.8	F
	Subtotal	580	404	69.7%	303.7	59.8	F
WB	Left Turn	250	198	79.3%	343.8	87.3	F
	Through	360	335	93.0%	55.7	9.4	E
	Right Turn	50	47	93.6%	36.3	13.3	D
	Subtotal	660	580	87.9%	159.1	32.7	F
Total		3,851	3,068	79.7%	227.4	29.1	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	89.0%	53.6	37.3	D
	Through	50	53	105.2%	97.9	14.0	F
	Right Turn	30	35	116.7%	9.7	1.7	A
	Subtotal	90	97	107.2%	62.6	18.3	E
SB	Left Turn	280	283	101.1%	33.4	2.5	C
	Through	10	12	119.0%	34.0	14.6	C
	Right Turn	70	75	107.0%	8.4	2.4	A
	Subtotal	360	370	102.8%	29.2	2.5	C
EB	Left Turn	614	513	83.6%	327.6	23.4	F
	Through	431	383	88.8%	112.4	9.3	F
	Right Turn	10	9	85.0%	81.3	66.2	F
	Subtotal	1,055	905	85.7%	241.7	15.2	F
WB	Left Turn	10	7	72.0%	50.9	33.3	D
	Through	231	182	78.7%	82.9	11.6	F
	Right Turn	1,140	872	76.5%	96.6	4.6	F
	Subtotal	1,381	1,061	76.9%	94.0	5.7	F
Total		2,886	2,432	84.3%	136.4	5.4	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	321	322	100.3%	106.3	33.0	F
	Through	620	637	102.8%	25.2	2.8	C
	Right Turn	100	104	104.4%	14.0	5.3	B
	Subtotal	1,041	1,064	102.2%	49.5	12.0	D
SB	Left Turn	210	146	69.4%	75.4	10.8	E
	Through	830	568	68.5%	64.6	10.3	E
	Right Turn	880	598	67.9%	177.5	23.5	F
	Subtotal	1,920	1,312	68.3%	117.4	15.8	F
EB	Left Turn	211	204	96.7%	49.8	6.7	D
	Through	310	293	94.4%	47.7	4.8	D
	Right Turn	220	202	92.0%	30.0	2.9	C
	Subtotal	741	699	94.3%	43.0	3.2	D
WB	Left Turn	70	52	74.3%	199.0	18.3	F
	Through	180	147	81.7%	235.0	19.9	F
	Right Turn	300	240	80.0%	172.6	19.0	F
	Subtotal	550	439	79.9%	196.9	17.6	F
Total		4,252	3,514	82.6%	91.1	6.1	F

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	389	393	101.1%	50.2	4.7	D
	Through	35	35	99.7%	48.4	10.9	D
	Right Turn	744	755	101.5%	2.4	0.6	A
	Subtotal	1,168	1,183	101.3%	20.2	2.1	C
SB	Left Turn	2	2	75.0%	29.0	41.4	C
	Through	16	15	95.0%	65.9	25.0	E
	Right Turn	5	5	96.0%	10.8	16.0	B
	Subtotal	23	22	93.5%	53.1	17.3	D
EB	Left Turn	1	1	90.0%	3.5	11.0	A
	Through	135	141	104.4%	62.2	12.2	E
	Right Turn	128	132	102.9%	30.0	6.7	C
	Subtotal	264	274	103.6%	45.8	6.6	D
WB	Left Turn	708	714	100.8%	6.2	1.3	A
	Through	203	208	102.4%	5.2	2.7	A
	Right Turn	11	11	98.2%	5.5	6.2	A
	Subtotal	922	933	101.2%	6.0	1.2	A
Total		2,377	2,411	101.4%	18.4	1.3	B

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	820	828	101.0%	24.7	3.0	C
	Through	893	896	100.3%	12.2	2.5	B
	Right Turn	194	201	103.7%	14.0	4.4	B
	Subtotal	1,907	1,924	100.9%	17.8	2.4	B
SB	Left Turn	3	4	130.0%	49.7	42.3	D
	Through	299	292	97.5%	50.5	3.4	D
	Right Turn	77	79	102.3%	26.2	2.5	C
	Subtotal	379	374	98.8%	45.5	3.7	D
EB	Left Turn	324	331	102.2%	43.2	3.8	D
	Through	61	69	113.6%	45.5	8.6	D
	Right Turn	483	498	103.2%	2.2	0.5	A
	Subtotal	868	899	103.5%	21.3	1.8	C
WB	Left Turn	19	18	94.7%	48.3	25.0	D
	Through	25	26	103.6%	55.3	13.8	E
	Right Turn	4	5	117.5%	8.4	10.2	A
	Subtotal	48	49	101.3%	50.9	11.9	D
Total		3,202	3,246	101.4%	22.6	1.3	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	85.0%	18.9	29.0	B
	Through	2	2	95.0%	17.1	28.9	B
	Right Turn	21	22	103.3%	9.8	1.2	A
	Subtotal	25	25	101.2%	14.1	5.7	B
SB	Left Turn	942	970	102.9%	11.7	1.5	B
	Through	48	47	98.1%	11.0	5.0	B
	Right Turn	441	437	99.1%	5.0	1.5	A
	Subtotal	1,431	1,454	101.6%	9.7	1.3	A
EB	Left Turn	61	61	100.7%	52.7	8.0	D
	Through	123	128	103.8%	48.1	5.0	D
	Right Turn	31	31	100.0%	23.0	8.6	C
	Subtotal	215	220	102.4%	45.4	3.9	D
WB	Left Turn	37	38	101.4%	54.7	18.2	D
	Through	177	177	100.0%	40.1	5.9	D
	Right Turn	199	198	99.6%	3.9	0.8	A
	Subtotal	413	413	100.0%	24.7	4.5	C
Total		2,084	2,112	101.3%	16.7	1.1	B

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	131	133	101.8%	61.0	8.2	E
	Through	956	955	99.9%	36.4	2.4	D
	Right Turn	66	67	102.0%	28.9	7.7	C
	Subtotal	1,153	1,155	100.2%	39.0	2.1	D
SB	Left Turn	137	142	103.3%	74.3	8.6	E
	Through	467	469	100.4%	20.8	2.4	C
	Right Turn	197	197	100.2%	4.6	1.8	A
	Subtotal	801	808	100.9%	25.9	1.9	C
EB	Left Turn	457	471	103.0%	37.7	3.7	D
	Through	183	191	104.2%	30.6	3.0	C
	Right Turn	446	452	101.3%	22.0	4.3	C
	Subtotal	1,086	1,114	102.5%	30.3	3.0	C
WB	Left Turn	52	51	97.5%	52.2	9.1	D
	Through	85	83	97.8%	55.7	12.0	E
	Right Turn	494	494	100.1%	30.2	9.1	C
	Subtotal	631	628	99.6%	35.4	9.3	D
Total		3,671	3,705	100.9%	33.0	2.1	C

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	77	76	98.1%	45.9	9.2	D
	Through	2	2	80.0%	12.9	29.4	B
	Right Turn	200	195	97.4%	24.5	19.5	C
	Subtotal	279	272	97.5%	30.0	14.8	C
SB	Left Turn	10	9	92.0%	71.7	28.1	E
	Through	20	23	115.0%	55.8	16.1	E
	Right Turn	4	5	132.5%	23.9	28.7	C
	Subtotal	34	38	110.3%	58.6	17.6	E
EB	Left Turn						
	Through	287	275	95.7%	190.3	117.5	F
	Right Turn	809	793	98.0%	61.2	34.2	E
	Subtotal	1,096	1,067	97.4%	93.9	51.1	F
WB	Left Turn	912	929	101.9%	13.8	1.1	B
	Through	178	180	101.2%	14.2	3.9	B
	Right Turn	1	1	80.0%	0.1	0.2	A
	Subtotal	1,091	1,110	101.7%	13.8	1.4	B
Total		2,500	2,487	99.5%	51.5	23.4	D

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	692	734	106.0%	45.8	4.6	D
	Through	207	211	101.9%	14.1	3.5	B
	Right Turn	19	22	116.8%	10.8	6.3	B
	Subtotal	918	967	105.3%	38.0	3.7	D
SB	Left Turn	2	2	75.0%	32.9	104.2	C
	Through	1,026	903	88.0%	366.1	78.8	F
	Right Turn	238	213	89.5%	214.0	57.3	F
	Subtotal	1,266	1,118	88.3%	334.9	75.3	F
EB	Left Turn	48	48	100.0%	54.9	12.4	D
	Through	13	11	86.2%	115.4	72.6	F
	Right Turn	433	390	90.0%	263.4	70.1	F
	Subtotal	494	449	90.8%	235.3	62.0	F
WB	Left Turn	107	97	90.7%	219.9	68.0	F
	Through	161	156	97.0%	46.3	13.8	D
	Right Turn	4	3	82.5%	27.4	28.6	C
	Subtotal	272	257	94.3%	116.1	38.1	F
Total		2,950	2,790	94.6%	198.2	38.8	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	2	2	90.0%	8.6	19.7	A
	Through	49	52	105.7%	85.4	11.6	F
	Right Turn	21	25	120.0%	9.5	1.5	A
	Subtotal	72	79	109.4%	57.7	13.2	E
SB	Left Turn	108	110	101.7%	29.9	4.1	C
	Through	4	4	97.5%	16.2	25.0	B
	Right Turn	44	51	116.1%	9.8	2.7	A
	Subtotal	156	165	105.6%	23.5	3.7	C
EB	Left Turn	504	483	95.8%	275.6	79.5	F
	Through	257	260	101.1%	57.5	49.6	E
	Right Turn	13	13	102.3%	57.6	69.3	E
	Subtotal	774	756	97.6%	203.3	68.8	F
WB	Left Turn	8	7	91.3%	61.4	39.8	E
	Through	101	93	92.5%	57.2	5.4	E
	Right Turn	986	920	93.3%	92.7	2.7	F
	Subtotal	1,095	1,021	93.2%	89.2	2.7	F
Total		2,097	2,020	96.3%	124.8	24.3	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	228	235	103.2%	75.2	11.0	E
	Through	547	577	105.5%	20.8	4.0	C
	Right Turn	64	64	99.5%	14.3	4.3	B
	Subtotal	839	876	104.4%	35.9	4.0	D
SB	Left Turn	198	175	88.2%	72.8	13.5	E
	Through	616	538	87.3%	52.1	15.6	D
	Right Turn	752	665	88.4%	164.5	17.1	F
	Subtotal	1,566	1,377	88.0%	107.9	15.3	F
EB	Left Turn	103	112	108.3%	47.4	8.7	D
	Through	130	130	100.3%	45.0	6.9	D
	Right Turn	153	153	100.0%	25.8	2.9	C
	Subtotal	386	395	102.3%	38.4	3.7	D
WB	Left Turn	62	61	98.7%	48.7	9.1	D
	Through	115	120	104.4%	78.0	9.1	E
	Right Turn	268	277	103.4%	17.1	2.9	B
	Subtotal	445	458	103.0%	37.2	5.3	D
Total		3,236	3,107	96.0%	67.3	6.3	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	614	589	95.9%	109.7	17.3	F
	Through	40	40	99.0%	142.4	29.1	F
	Right Turn	1,073	1,020	95.1%	51.9	22.5	D
	Subtotal	1,727	1,649	95.5%	75.5	18.5	E
SB	Left Turn	10	9	93.0%	62.0	31.3	E
	Through	20	21	105.0%	49.5	20.3	D
	Right Turn	10	12	117.0%	21.5	13.3	C
	Subtotal	40	42	105.0%	46.2	14.4	D
EB	Left Turn	10	7	67.0%	291.3	198.9	F
	Through	225	198	88.1%	357.0	98.7	F
	Right Turn	146	147	100.5%	41.0	27.1	D
	Subtotal	381	352	92.3%	226.4	66.3	F
WB	Left Turn	755	743	98.3%	7.0	1.5	A
	Through	234	225	96.2%	7.1	3.4	A
	Right Turn	20	22	108.5%	1.4	1.3	A
	Subtotal	1,009	989	98.0%	6.9	1.7	A
Total		3,157	3,032	96.0%	72.2	13.3	E

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	859	849	98.8%	28.6	2.8	C
	Through	1,157	1,108	95.8%	29.1	3.8	C
	Right Turn	400	394	98.5%	22.8	3.5	C
	Subtotal	2,416	2,351	97.3%	28.0	2.9	C
SB	Left Turn	60	60	99.2%	55.4	6.2	E
	Through	320	326	101.9%	51.1	4.7	D
	Right Turn	90	81	89.7%	25.8	5.1	C
	Subtotal	470	466	99.2%	47.2	3.6	D
EB	Left Turn	502	465	92.6%	54.2	2.9	D
	Through	200	193	96.3%	70.1	6.4	E
	Right Turn	593	565	95.3%	9.8	2.3	A
	Subtotal	1,295	1,222	94.4%	35.7	3.2	D
WB	Left Turn	60	58	96.5%	52.3	9.0	D
	Through	60	56	93.3%	46.6	11.8	D
	Right Turn	10	9	88.0%	23.9	23.3	C
	Subtotal	130	123	94.4%	47.6	8.6	D
Total		4,311	4,163	96.6%	33.0	2.1	C

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	9	94.0%	52.5	19.1	D
	Through	10	10	102.0%	55.8	30.0	E
	Right Turn	30	32	107.7%	9.6	1.0	A
	Subtotal	50	52	103.8%	30.5	7.6	C
SB	Left Turn	1,290	1,255	97.3%	64.8	47.1	E
	Through	50	48	95.2%	69.1	43.9	E
	Right Turn	460	458	99.5%	49.1	54.1	D
	Subtotal	1,800	1,760	97.8%	61.2	48.6	E
EB	Left Turn	103	100	97.2%	54.3	6.0	D
	Through	235	242	102.8%	47.3	2.6	D
	Right Turn	37	38	101.6%	23.9	10.8	C
	Subtotal	375	379	101.1%	46.7	2.1	D
WB	Left Turn	40	38	95.3%	64.2	11.9	E
	Through	281	263	93.7%	39.7	2.4	D
	Right Turn	243	228	94.0%	5.0	1.1	A
	Subtotal	564	530	93.9%	25.8	2.1	C
Total		2,789	2,721	97.6%	52.3	32.2	D

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	201	201	100.0%	120.1	67.3	F
	Through	1,131	1,139	100.7%	44.8	2.8	D
	Right Turn	80	83	104.1%	34.6	4.5	C
	Subtotal	1,412	1,423	100.8%	56.5	11.9	E
SB	Left Turn	160	153	95.6%	67.5	9.3	E
	Through	600	592	98.7%	37.2	2.8	D
	Right Turn	213	202	95.0%	11.0	1.6	B
	Subtotal	973	948	97.4%	37.4	2.6	D
EB	Left Turn	775	768	99.1%	58.4	17.3	E
	Through	290	281	96.7%	36.8	7.4	D
	Right Turn	490	486	99.1%	23.3	3.1	C
	Subtotal	1,555	1,534	98.6%	43.4	10.7	D
WB	Left Turn	60	50	82.8%	139.0	10.7	F
	Through	150	126	84.1%	156.8	14.1	F
	Right Turn	510	435	85.2%	127.3	7.5	F
	Subtotal	720	611	84.8%	134.1	7.7	F
Total		4,660	4,515	96.9%	57.5	4.5	E

Intersection 2 **Driveway/SR92WB Ramp/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	104	100	95.7%	72.5	74.6	E
	Through	10	9	91.0%	137.9	132.8	F
	Right Turn	253	214	84.7%	341.1	133.9	F
	Subtotal	367	323	88.0%	252.9	108.1	F
SB	Left Turn	20	20	99.0%	87.4	35.2	F
	Through	30	30	99.7%	53.4	16.5	D
	Right Turn	10	12	122.0%	26.3	14.2	C
	Subtotal	60	62	103.2%	58.3	15.1	E
EB	Left Turn	10	5	52.0%	342.1	391.0	F
	Through	335	190	56.8%	743.4	146.7	F
	Right Turn	909	615	67.7%	483.5	74.0	F
	Subtotal	1,254	811	64.6%	553.8	91.1	F
WB	Left Turn	1,177	1,059	90.0%	11.4	1.0	B
	Through	238	212	88.9%	9.8	1.8	A
	Right Turn	10	8	76.0%	6.2	7.2	A
	Subtotal	1,425	1,278	89.7%	11.1	1.0	B
Total		3,106	2,474	79.6%	199.4	29.2	F

Intersection 3 **Foster City Blvd/Chess Dr** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	771	731	94.8%	98.3	49.6	F
	Through	270	255	94.6%	19.3	3.2	B
	Right Turn	90	83	91.8%	5.8	1.2	A
	Subtotal	1,131	1,069	94.5%	72.5	35.4	E
SB	Left Turn	10	7	69.0%	265.0	141.0	F
	Through	1,180	785	66.5%	487.3	65.4	F
	Right Turn	293	201	68.7%	273.4	30.2	F
	Subtotal	1,483	993	67.0%	447.0	56.9	F
EB	Left Turn	60	42	69.2%	71.0	18.4	E
	Through	40	29	72.0%	180.6	47.3	F
	Right Turn	505	309	61.1%	431.3	92.4	F
	Subtotal	605	379	62.6%	375.1	76.6	F
WB	Left Turn	250	195	78.0%	377.8	95.4	F
	Through	360	335	93.0%	59.7	12.1	E
	Right Turn	50	50	99.0%	37.3	11.7	D
	Subtotal	660	580	87.8%	167.0	42.1	F
Total		3,879	3,020	77.9%	245.4	21.7	F

Intersection 5 **Metro Center Blvd/SR92 EB Ramp** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	10	10	98.0%	62.1	33.6	E
	Through	50	54	107.6%	94.4	9.9	F
	Right Turn	30	35	116.3%	9.3	1.5	A
	Subtotal	90	99	109.4%	62.3	13.9	E
SB	Left Turn	280	280	99.9%	33.3	3.3	C
	Through	10	10	99.0%	37.1	23.7	D
	Right Turn	70	72	102.4%	8.1	2.1	A
	Subtotal	360	361	100.3%	28.9	3.1	C
EB	Left Turn	614	507	82.5%	340.3	28.8	F
	Through	431	376	87.3%	115.5	13.0	F
	Right Turn	17	15	90.0%	101.0	22.1	F
	Subtotal	1,062	898	84.6%	246.6	23.6	F
WB	Left Turn	10	7	71.0%	56.4	38.7	E
	Through	231	172	74.5%	71.2	10.2	E
	Right Turn	1,154	879	76.1%	95.0	4.8	F
	Subtotal	1,395	1,058	75.8%	91.0	5.0	F
Total		2,907	2,416	83.1%	136.8	9.5	F

Intersection 6 **Foster City Blvd/Metro Center Blvd** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
NB	Left Turn	321	326	101.5%	100.3	30.5	F
	Through	620	632	101.9%	25.3	5.1	C
	Right Turn	100	99	99.1%	13.9	3.8	B
	Subtotal	1,041	1,057	101.5%	47.0	11.0	D
SB	Left Turn	210	138	65.8%	82.7	19.1	F
	Through	831	549	66.1%	70.7	11.5	E
	Right Turn	894	588	65.8%	182.8	23.7	F
	Subtotal	1,935	1,275	65.9%	124.5	15.4	F
EB	Left Turn	211	204	96.4%	48.7	8.0	D
	Through	310	288	93.0%	46.2	6.9	D
	Right Turn	220	199	90.4%	30.7	2.4	C
	Subtotal	741	691	93.2%	42.3	4.6	D
WB	Left Turn	70	50	70.9%	198.7	14.3	F
	Through	180	146	81.3%	236.1	21.1	F
	Right Turn	300	240	80.0%	172.1	19.0	F
	Subtotal	550	436	79.2%	197.4	18.8	F
Total		4,267	3,459	81.1%	93.0	4.8	F

Average Queue Lengths

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
2	**Driveway/SR92WB Ramp/Chess Dr**											
		LT	1090	75	75	25	25	1090	425	450	125	175
	NB	TH	470	75	75	25	25	470	425	450	125	175
		RT	515	25	25	25	25	515	275	300	75	125
		LT										
	SB	TH										
		RT										
		LT	340	50	75	0	0	340	400	400	725	800
	EB	TH	340	50	75	225	250	340	400	400	725	800
		RT	320	50	50	200	225	320	350	375	700	775
		LT	335	25	25	50	50	335	25	25	75	75
	WB	TH	335	25	25	50	50	335	25	25	75	75
		RT	335	25	25	75	75	335	50	50	75	75

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
3	**Foster City Blvd/Chess Dr**											
		LT	520	75	75	100	100	845	100	100	175	225
	NB	TH	1090	50	50	25	25	845	150	150	25	25
		RT	1090	50	50	25	25	155	50	50	25	25
		LT	115	25	25	25	25	115	25	25	25	125
	SB	TH	1230	75	75	925	925	1230	75	75	1075	1100
		RT	175	25	25	275	375	175	25	25	575	675
		LT	325	75	75	125	150	325	275	275	300	350
	EB	TH	335	75	75	125	150	335	275	275	300	350
		RT	295	25	25	50	50	295	125	125	150	200
		LT	100	25	25	50	75	265	25	25	200	225
	WB	TH	350	25	25	50	50	360	25	25	75	100
		RT	350	25	25	50	75	360	50	50	100	125

Average Queue Lengths

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
5	**Metro Center Blvd/SR92 EB Ramp**											
		LT										
	NB	TH										
		RT										
		LT	865	50	50	25	25	865	275	275	50	50
	SB	TH	595	50	50	25	25	595	275	275	50	50
		RT	835	25	25	25	25	835	25	50	25	25
		LT	285	25	25	450	425	285	50	25	650	700
	EB	TH	630	50	50	25	25	630	50	50	75	50
		RT	630	50	50	50	50	630	75	75	75	75
		LT	95	25	25	25	25	95	25	25	25	25
	WB	TH	275	50	50	250	250	275	50	50	275	275
		RT	275	50	50	250	250	275	50	50	275	275

Int ID	Intersection	Movement	Ex Storage (ft)	Average Queue Length (ft) Existing AM	E + P AM	Existing PM	E + P PM	Cum Storage (ft)	Average Queue Length (ft) Cum AM	C + P AM	Cum PM	C + P PM
6	**Foster City Blvd/Metro Center Blvd**											
		LT	230	50	50	100	100	230	200	175	150	150
	NB	TH	785	100	100	50	50	785	175	150	75	75
		RT	785	100	100	50	50	785	175	150	75	50
		LT	215	75	75	700	775	215	75	75	750	775
	SB	TH	965	50	50	1025	1075	965	75	75	1150	1200
		RT	1045	0	0	1125	1175	1045	25	25	1250	1275
		LT	335	75	75	50	50	335	200	200	75	75
	EB	TH	145	75	75	50	50	145	200	200	75	75
		RT	250	50	50	25	25	250	50	50	25	25
		LT	50	25	25	25	25	50	125	125	250	225
	WB	TH	175	75	75	75	75	175	525	525	575	575
		RT	175	75	75	75	75	175	525	525	575	575

APPENDIX D

AIR QUALITY/GREENHOUSE GAS EMISSIONS DATA

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

388 Vintage Park Drive Project

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	95.93	1000sqft	1.40	95,931.00	0
Enclosed Parking with Elevator	95.00	Space	0.00	38,000.00	0
Parking Lot	93.00	Space	0.80	37,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include an approximately 95,931-square-foot building including a ground-level parking garage and surface parking lot.

Construction Phase - construction of the proposed project is anticipated to begin in March 2022, last approximately 17 months, and is anticipated to be fully operational late 2023.

Demolition - Approximately 180 tons of demolition waste would be generated by the proposed project.

Grading - 2.2-acre project site.

Vehicle Trips - Weekday trip rate revised based on proposed project's estimated trip generation.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Water Mitigation - The proposed project would include low□flow indoor water fixtures.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming a 250 kW diesel generator that runs an hour a week for testing.

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	3.00	10.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	220.00	290.00
tblGrading	AcresOfGrading	10.00	2.20
tblGrading	AcresOfGrading	15.00	2.20
tblLandUse	LandUseSquareFeet	95,930.00	95,931.00
tblLandUse	LotAcreage	2.20	1.40
tblLandUse	LotAcreage	0.86	0.00
tblLandUse	LotAcreage	0.84	0.80
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	52.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	11.26	7.29

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2233	1.8402	1.7385	3.6900e-003	0.0957	0.0824	0.1781	0.0338	0.0784	0.1122	0.0000	320.4719	320.4719	0.0518	8.6200e-003	324.3343
2023	0.6320	0.9110	0.9893	2.1200e-003	0.0398	0.0384	0.0782	0.0108	0.0367	0.0475	0.0000	183.1564	183.1564	0.0264	5.3300e-003	185.4055
Maximum	**0.6320**	**1.8402**	**1.7385**	**3.6900e-003**	**0.0957**	**0.0824**	**0.1781**	**0.0338**	**0.0784**	**0.1122**	**0.0000**	**320.4719**	**320.4719**	**0.0518**	**8.6200e-003**	**324.3343**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1236	2.4125	1.8851	3.6900e-003	0.0768	0.0889	0.1657	0.0244	0.0888	0.1132	0.0000	320.4717	320.4717	0.0518	8.6200e-003	324.3341
2023	0.5868	1.3206	1.0644	2.1200e-003	0.0398	0.0509	0.0907	0.0108	0.0508	0.0617	0.0000	183.1563	183.1563	0.0264	5.3300e-003	185.4053
Maximum	**0.5868**	**2.4125**	**1.8851**	**3.6900e-003**	**0.0768**	**0.0889**	**0.1657**	**0.0244**	**0.0888**	**0.1132**	**0.0000**	**320.4717**	**320.4717**	**0.0518**	**8.6200e-003**	**324.3341**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**16.94**	**-35.69**	**-8.13**	**0.00**	**13.95**	**-15.75**	**-0.05**	**21.07**	**-21.35**	**-9.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-7-2022**	**6-6-2022**	0.6524	0.7811
2	**6-7-2022**	**9-6-2022**	0.6019	0.7509
3	**9-7-2022**	**12-6-2022**	0.5980	0.7454
4	**12-7-2022**	**3-6-2023**	0.5575	0.7293
5	**3-7-2023**	**6-6-2023**	0.5539	0.7398
6	**6-7-2023**	**9-6-2023**	0.5087	0.5483
		Highest	0.6524	0.7811

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4314	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.4100e-003
Energy	0.0127	0.1155	0.0971	6.9000e-004		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	212.0589	212.0589	0.0164	4.0000e-003	213.6595
Mobile	0.2452	0.2849	2.3232	4.7900e-003	0.4995	3.5700e-003	0.5031	0.1334	3.3300e-003	0.1368	0.0000	446.6993	446.6993	0.0294	0.0216	453.8622
Stationary	0.0143	0.0400	0.0365	7.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	6.6335	6.6335	9.3000e-004	0.0000	6.6567
Waste						0.0000	0.0000		0.0000	0.0000	1.4798	0.0000	1.4798	0.0875	0.0000	3.6662
Water						0.0000	0.0000		0.0000	0.0000	14.9643	23.6146	38.5789	1.5408	0.0368	88.0516
Total	**0.7035**	**0.4404**	**2.4593**	**5.5500e-003**	**0.4995**	**0.0145**	**0.5140**	**0.1334**	**0.0142**	**0.1477**	**16.4441**	**689.0114**	**705.4555**	**1.6750**	**0.0623**	**765.9016**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4314	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.4100e-003
Energy	0.0127	0.1155	0.0971	6.9000e-004		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	212.0589	212.0589	0.0164	4.0000e-003	213.6595
Mobile	0.2429	0.2805	2.2881	4.7000e-003	0.4895	3.5100e-003	0.4930	0.1308	3.2700e-003	0.1340	0.0000	438.0296	438.0296	0.0291	0.0213	445.0880
Stationary	0.0143	0.0400	0.0365	7.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	6.6335	6.6335	9.3000e-004	0.0000	6.6567
Waste						0.0000	0.0000		0.0000	0.0000	1.4798	0.0000	1.4798	0.0875	0.0000	3.6662
Water						0.0000	0.0000		0.0000	0.0000	11.9714	18.8917	30.8631	1.2326	0.0294	70.4413
Total	**0.7013**	**0.4360**	**2.4243**	**5.4600e-003**	**0.4895**	**0.0144**	**0.5039**	**0.1308**	**0.0142**	**0.1449**	**13.4512**	**675.6187**	**689.0700**	**1.3665**	**0.0547**	**739.5171**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**0.99**	**1.43**	**1.62**	**2.00**	**0.41**	**1.96**	**2.00**	**0.42**	**1.85**	**18.20**	**1.94**	**2.32**	**18.42**	**12.31**	**3.44**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/7/2022	4/15/2022	5	30	
2	Site Preparation	Site Preparation	4/18/2022	4/29/2022	5	10	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	Grading	Grading	5/2/2022	5/13/2022	5	10	
4	Building Construction	Building Construction	5/2/2022	6/9/2023	5	290	
5	Paving	Paving	6/12/2023	6/23/2023	5	10	
6	Architectural Coating	Architectural Coating	6/26/2023	7/7/2023	5	10	

Acres of Grading (Site Preparation Phase): 2.2

Acres of Grading (Grading Phase): 2.2

Acres of Paving: 0.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 143,897; Non-Residential Outdoor: 47,966; Striped Parking Area: 4,512 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	62.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9300e-003	0.0000	1.9300e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0253	0.2493	0.2094	3.6000e-004		0.0126	0.0126		0.0117	0.0117	0.0000	31.6165	31.6165	8.0600e-003	0.0000	31.8180
Total	**0.0253**	**0.2493**	**0.2094**	**3.6000e-004**	**1.9300e-003**	**0.0126**	**0.0145**	**2.9000e-004**	**0.0117**	**0.0120**	**0.0000**	**31.6165**	**31.6165**	**8.0600e-003**	**0.0000**	**31.8180**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.5500e-003	3.3000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5642	0.5642	2.0000e-005	9.0000e-005	0.5913
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.6600e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2393	1.2393	4.0000e-005	4.0000e-005	1.2509
Total	**5.8000e-004**	**1.9400e-003**	**4.9900e-003**	**2.0000e-005**	**1.6900e-003**	**2.0000e-005**	**1.7200e-003**	**4.5000e-004**	**2.0000e-005**	**4.8000e-004**	**0.0000**	**1.8034**	**1.8034**	**6.0000e-005**	**1.3000e-004**	**1.8421**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7000e-004	0.0000	8.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.3181	0.2312	3.6000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	31.6165	31.6165	8.0600e-003	0.0000	31.8179
Total	**0.0133**	**0.3181**	**0.2312**	**3.6000e-004**	**8.7000e-004**	**0.0108**	**0.0116**	**1.3000e-004**	**0.0108**	**0.0109**	**0.0000**	**31.6165**	**31.6165**	**8.0600e-003**	**0.0000**	**31.8179**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.5500e-003	3.3000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5642	0.5642	2.0000e-005	9.0000e-005	0.5913
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.9000e-004	4.6600e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2393	1.2393	4.0000e-005	4.0000e-005	1.2509
Total	**5.8000e-004**	**1.9400e-003**	**4.9900e-003**	**2.0000e-005**	**1.6900e-003**	**2.0000e-005**	**1.7200e-003**	**4.5000e-004**	**2.0000e-005**	**4.8000e-004**	**0.0000**	**1.8034**	**1.8034**	**6.0000e-005**	**1.3000e-004**	**1.8421**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1700e-003	0.0000	1.1700e-003	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8900e-003	0.0783	0.0503	1.2000e-004		2.9800e-003	2.9800e-003		2.7400e-003	2.7400e-003	0.0000	10.7735	10.7735	3.4800e-003	0.0000	10.8606
Total	**6.8900e-003**	**0.0783**	**0.0503**	**1.2000e-004**	**1.1700e-003**	**2.9800e-003**	**4.1500e-003**	**1.3000e-004**	**2.7400e-003**	**2.8700e-003**	**0.0000**	**10.7735**	**10.7735**	**3.4800e-003**	**0.0000**	**10.8606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	9.6000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2542	0.2542	1.0000e-005	1.0000e-005	0.2566
Total	**1.1000e-004**	**8.0000e-005**	**9.6000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2542**	**0.2542**	**1.0000e-005**	**1.0000e-005**	**0.2566**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2000e-004	0.0000	5.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3100e-003	0.1001	0.0682	1.2000e-004		2.4900e-003	2.4900e-003		2.4900e-003	2.4900e-003	0.0000	10.7735	10.7735	3.4800e-003	0.0000	10.8606
Total	**3.3100e-003**	**0.1001**	**0.0682**	**1.2000e-004**	**5.2000e-004**	**2.4900e-003**	**3.0100e-003**	**6.0000e-005**	**2.4900e-003**	**2.5500e-003**	**0.0000**	**10.7735**	**10.7735**	**3.4800e-003**	**0.0000**	**10.8606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	9.6000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2542	0.2542	1.0000e-005	1.0000e-005	0.2566
Total	**1.1000e-004**	**8.0000e-005**	**9.6000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2542**	**0.2542**	**1.0000e-005**	**1.0000e-005**	**0.2566**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0313	0.0000	0.0313	0.0167	0.0000	0.0167	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-003	0.0849	0.0461	1.0000e-004		3.7100e-003	3.7100e-003		3.4100e-003	3.4100e-003	0.0000	9.0514	9.0514	2.9300e-003	0.0000	9.1245
Total	**7.7000e-003**	**0.0849**	**0.0461**	**1.0000e-004**	**0.0313**	**3.7100e-003**	**0.0350**	**0.0167**	**3.4100e-003**	**0.0201**	**0.0000**	**9.0514**	**9.0514**	**2.9300e-003**	**0.0000**	**9.1245**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.2000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3178	0.3178	1.0000e-005	1.0000e-005	0.3207
Total	**1.4000e-004**	**1.0000e-004**	**1.2000e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3178**	**0.3178**	**1.0000e-005**	**1.0000e-005**	**0.3207**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0141	0.0000	0.0141	7.5000e-003	0.0000	7.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1300e-003	0.0905	0.0607	1.0000e-004		2.4300e-003	2.4300e-003		2.4300e-003	2.4300e-003	0.0000	9.0514	9.0514	2.9300e-003	0.0000	9.1245
Total	**3.1300e-003**	**0.0905**	**0.0607**	**1.0000e-004**	**0.0141**	**2.4300e-003**	**0.0165**	**7.5000e-003**	**2.4300e-003**	**9.9300e-003**	**0.0000**	**9.0514**	**9.0514**	**2.9300e-003**	**0.0000**	**9.1245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.2000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3178	0.3178	1.0000e-005	1.0000e-005	0.3207
Total	**1.4000e-004**	**1.0000e-004**	**1.2000e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3178**	**0.3178**	**1.0000e-005**	**1.0000e-005**	**0.3207**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1624	1.2779	1.2559	2.1900e-003		0.0614	0.0614		0.0589	0.0589	0.0000	181.7201	181.7201	0.0351	0.0000	182.5966
Total	**0.1624**	**1.2779**	**1.2559**	**2.1900e-003**		**0.0614**	**0.0614**		**0.0589**	**0.0589**	**0.0000**	**181.7201**	**181.7201**	**0.0351**	**0.0000**	**182.5966**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.2400e-003	0.1369	0.0399	5.2000e-004	0.0161	1.4100e-003	0.0175	4.6500e-003	1.3500e-003	6.0000e-003	0.0000	50.4584	50.4584	1.1000e-003	7.4800e-003	52.7154
Worker	0.0149	0.0107	0.1297	3.7000e-004	0.0429	2.3000e-004	0.0431	0.0114	2.1000e-004	0.0116	0.0000	34.4767	34.4767	1.0700e-003	9.9000e-004	34.7998
Total	**0.0201**	**0.1476**	**0.1696**	**8.9000e-004**	**0.0589**	**1.6400e-003**	**0.0606**	**0.0161**	**1.5600e-003**	**0.0176**	**0.0000**	**84.9351**	**84.9351**	**2.1700e-003**	**8.4700e-003**	**87.5152**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0829	1.7541	1.3482	2.1900e-003		0.0716	0.0716		0.0716	0.0716	0.0000	181.7199	181.7199	0.0351	0.0000	182.5964
Total	**0.0829**	**1.7541**	**1.3482**	**2.1900e-003**		**0.0716**	**0.0716**		**0.0716**	**0.0716**	**0.0000**	**181.7199**	**181.7199**	**0.0351**	**0.0000**	**182.5964**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.2400e-003	0.1369	0.0399	5.2000e-004	0.0161	1.4100e-003	0.0175	4.6500e-003	1.3500e-003	6.0000e-003	0.0000	50.4584	50.4584	1.1000e-003	7.4800e-003	52.7154
Worker	0.0149	0.0107	0.1297	3.7000e-004	0.0429	2.3000e-004	0.0431	0.0114	2.1000e-004	0.0116	0.0000	34.4767	34.4767	1.0700e-003	9.9000e-004	34.7998
Total	**0.0201**	**0.1476**	**0.1696**	**8.9000e-004**	**0.0589**	**1.6400e-003**	**0.0606**	**0.0161**	**1.5600e-003**	**0.0176**	**0.0000**	**84.9351**	**84.9351**	**2.1700e-003**	**8.4700e-003**	**87.5152**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0985	0.7834	0.8173	1.4400e-003		0.0353	0.0353		0.0338	0.0338	0.0000	119.4287	119.4287	0.0226	0.0000	119.9933
Total	**0.0985**	**0.7834**	**0.8173**	**1.4400e-003**		**0.0353**	**0.0353**		**0.0338**	**0.0338**	**0.0000**	**119.4287**	**119.4287**	**0.0226**	**0.0000**	**119.9933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7200e-003	0.0716	0.0224	3.3000e-004	0.0106	4.2000e-004	0.0110	3.0600e-003	4.0000e-004	3.4600e-003	0.0000	31.7807	31.7807	6.5000e-004	4.7000e-003	33.1979
Worker	9.1200e-003	6.2500e-003	0.0791	2.4000e-004	0.0282	1.5000e-004	0.0283	7.4900e-003	1.3000e-004	7.6300e-003	0.0000	22.0780	22.0780	6.4000e-004	6.1000e-004	22.2744
Total	**0.0108**	**0.0778**	**0.1015**	**5.7000e-004**	**0.0387**	**5.7000e-004**	**0.0393**	**0.0106**	**5.3000e-004**	**0.0111**	**0.0000**	**53.8587**	**53.8587**	**1.2900e-003**	**5.3100e-003**	**55.4723**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0545	1.1527	0.8860	1.4400e-003		0.0470	0.0470		0.0470	0.0470	0.0000	119.4285	119.4285	0.0226	0.0000	119.9932
Total	**0.0545**	**1.1527**	**0.8860**	**1.4400e-003**		**0.0470**	**0.0470**		**0.0470**	**0.0470**	**0.0000**	**119.4285**	**119.4285**	**0.0226**	**0.0000**	**119.9932**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7200e-003	0.0716	0.0224	3.3000e-004	0.0106	4.2000e-004	0.0110	3.0600e-003	4.0000e-004	3.4600e-003	0.0000	31.7807	31.7807	6.5000e-004	4.7000e-003	33.1979
Worker	9.1200e-003	6.2500e-003	0.0791	2.4000e-004	0.0282	1.5000e-004	0.0283	7.4900e-003	1.3000e-004	7.6300e-003	0.0000	22.0780	22.0780	6.4000e-004	6.1000e-004	22.2744
Total	**0.0108**	**0.0778**	**0.1015**	**5.7000e-004**	**0.0387**	**5.7000e-004**	**0.0393**	**0.0106**	**5.3000e-004**	**0.0111**	**0.0000**	**53.8587**	**53.8587**	**1.2900e-003**	**5.3100e-003**	**55.4723**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8179
Paving	1.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4500e-003**	**0.0431**	**0.0584**	**9.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.6600e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4645	0.4645	1.0000e-005	1.0000e-005	0.4686
Total	**1.9000e-004**	**1.3000e-004**	**1.6600e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4645**	**0.4645**	**1.0000e-005**	**1.0000e-005**	**0.4686**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6700e-003	0.0781	0.0649	9.0000e-005		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178
Paving	1.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7200e-003**	**0.0781**	**0.0649**	**9.0000e-005**		**2.7900e-003**	**2.7900e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8178**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.6600e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4645	0.4645	1.0000e-005	1.0000e-005	0.4686
Total	**1.9000e-004**	**1.3000e-004**	**1.6600e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4645**	**0.4645**	**1.0000e-005**	**1.0000e-005**	**0.4686**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.5169**	**6.5100e-003**	**9.0600e-003**	**1.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.1000e-004	1.3300e-003	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3716	0.3716	1.0000e-005	1.0000e-005	0.3749
Total	**1.5000e-004**	**1.1000e-004**	**1.3300e-003**	**0.0000**	**4.7000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3716**	**0.3716**	**1.0000e-005**	**1.0000e-005**	**0.3749**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	0.0118	9.1600e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.5165**	**0.0118**	**9.1600e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.8000e-004**	**4.8000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.1000e-004	1.3300e-003	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3716	0.3716	1.0000e-005	1.0000e-005	0.3749
Total	**1.5000e-004**	**1.1000e-004**	**1.3300e-003**	**0.0000**	**4.7000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3716**	**0.3716**	**1.0000e-005**	**1.0000e-005**	**0.3749**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2429	0.2805	2.2881	4.7000e-003	0.4895	3.5100e-003	0.4930	0.1308	3.2700e-003	0.1340	0.0000	438.0296	438.0296	0.0291	0.0213	445.0880
Unmitigated	0.2452	0.2849	2.3232	4.7900e-003	0.4995	3.5700e-003	0.5031	0.1334	3.3300e-003	0.1368	0.0000	446.6993	446.6993	0.0294	0.0216	453.8622

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	699.33	182.27	106.48	1,355,306	1,328,200
Total	699.33	182.27	106.48	1,355,306	1,328,200

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Parking Lot	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Research & Development	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	86.2791	86.2791	0.0140	1.6900e-003	87.1322
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	86.2791	86.2791	0.0140	1.6900e-003	87.1322
NaturalGas Mitigated	0.0127	0.1155	0.0971	6.9000e-004		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	125.7798	125.7798	2.4100e-003	2.3100e-003	126.5273
NaturalGas Unmitigated	0.0127	0.1155	0.0971	6.9000e-004		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	125.7798	125.7798	2.4100e-003	2.3100e-003	126.5273

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	2.35702e+006	0.0127	0.1155	0.0971	6.9000e-004		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	125.7798	125.7798	2.4100e-003	2.3100e-003	126.5273
Total		**0.0127**	**0.1155**	**0.0971**	**6.9000e-004**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**125.7798**	**125.7798**	**2.4100e-003**	**2.3100e-003**	**126.5273**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	2.35702e+006	0.0127	0.1155	0.0971	6.9000e-004		8.7800e-003	8.7800e-003		8.7800e-003	8.7800e-003	0.0000	125.7798	125.7798	2.4100e-003	2.3100e-003	126.5273
Total		**0.0127**	**0.1155**	**0.0971**	**6.9000e-004**		**8.7800e-003**	**8.7800e-003**		**8.7800e-003**	**8.7800e-003**	**0.0000**	**125.7798**	**125.7798**	**2.4100e-003**	**2.3100e-003**	**126.5273**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	206720	19.1265	3.0900e-003	3.8000e-004	19.3156
Parking Lot	13020	1.2047	1.9000e-004	2.0000e-005	1.2166
Research & Development	712767	65.9479	0.0107	1.2900e-003	66.6000
Total		**86.2791**	**0.0140**	**1.6900e-003**	**87.1322**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	206720	19.1265	3.0900e-003	3.8000e-004	19.3156
Parking Lot	13020	1.2047	1.9000e-004	2.0000e-005	1.2166
Research & Development	712767	65.9479	0.0107	1.2900e-003	66.6000
Total		**86.2791**	**0.0140**	**1.6900e-003**	**87.1322**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4314	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.4100e-003
Unmitigated	0.4314	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.4100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3795					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.4100e-003
Total	**0.4314**	**2.0000e-005**	**2.6100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.0700e-003**	**5.0700e-003**	**1.0000e-005**	**0.0000**	**5.4100e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3795					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.0700e-003	5.0700e-003	1.0000e-005	0.0000	5.4100e-003
Total	**0.4314**	**2.0000e-005**	**2.6100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.0700e-003**	**5.0700e-003**	**1.0000e-005**	**0.0000**	**5.4100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.8631	1.2326	0.0294	70.4413
Unmitigated	38.5789	1.5408	0.0368	88.0516

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	47.1682 / 0	38.5789	1.5408	0.0368	88.0516
Total		**38.5789**	**1.5408**	**0.0368**	**88.0516**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	37.7346 / 0	30.8631	1.2326	0.0294	70.4413
Total		**30.8631**	**1.2326**	**0.0294**	**70.4413**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.4798	0.0875	0.0000	3.6662
Unmitigated	1.4798	0.0875	0.0000	3.6662

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	7.29	1.4798	0.0875	0.0000	3.6662
Total		**1.4798**	**0.0875**	**0.0000**	**3.6662**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	7.29	1.4798	0.0875	0.0000	3.6662
Total		**1.4798**	**0.0875**	**0.0000**	**3.6662**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	52	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

388 Vintage Park Drive Project - Bay Area AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0143	0.0400	0.0365	7.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	6.6335	6.6335	9.3000e-004	0.0000	6.6567
Total	**0.0143**	**0.0400**	**0.0365**	**7.0000e-005**		**2.1000e-003**	**2.1000e-003**		**2.1000e-003**	**2.1000e-003**	**0.0000**	**6.6335**	**6.6335**	**9.3000e-004**	**0.0000**	**6.6567**

11.0 Vegetation

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

388 Vintage Park Drive Project

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	95.93	1000sqft	1.40	95,931.00	0
Enclosed Parking with Elevator	95.00	Space	0.00	38,000.00	0
Parking Lot	93.00	Space	0.80	37,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include an approximately 95,931-square-foot building including a ground-level parking garage and surface parking lot.

Construction Phase - construction of the proposed project is anticipated to begin in March 2022, last approximately 17 months, and is anticipated to be fully operational late 2023.

Demolition - Approximately 180 tons of demolition waste would be generated by the proposed project.

Grading - 2.2-acre project site.

Vehicle Trips - Weekday trip rate revised based on proposed project's estimated trip generation.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Water Mitigation - The proposed project would include low□flow indoor water fixtures.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming a 250 kW diesel generator that runs an hour a week for testing.

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	3.00	10.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	220.00	290.00
tblGrading	AcresOfGrading	10.00	2.20
tblGrading	AcresOfGrading	15.00	2.20
tblLandUse	LandUseSquareFeet	95,930.00	95,931.00
tblLandUse	LotAcreage	2.20	1.40
tblLandUse	LotAcreage	0.86	0.00
tblLandUse	LotAcreage	0.84	0.80
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	52.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	11.26	7.29

2.0 Emissions Summary

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6657	33.2244	25.8834	0.0569	7.0365	1.4637	8.5001	3.5469	1.3742	4.9211	0.0000	5,458.9294	5,458.9294	1.1156	0.1076	5,518.8845
2023	103.4057	14.9212	16.0801	0.0351	0.6990	0.6234	1.3224	0.1897	0.5973	0.7870	0.0000	3,350.2980	3,350.2980	0.5447	0.1007	3,391.7377
Maximum	**103.4057**	**33.2244**	**25.8834**	**0.0569**	**7.0365**	**1.4637**	**8.5001**	**3.5469**	**1.3742**	**4.9211**	**0.0000**	**5,458.9294**	**5,458.9294**	**1.1156**	**0.1076**	**5,518.8845**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8431	39.7882	29.8631	0.0569	3.5960	1.3220	4.9180	1.7124	1.3210	3.0334	0.0000	5,458.9294	5,458.9294	1.1156	0.1076	5,518.8845
2023	103.3280	21.3437	17.2738	0.0351	0.6990	0.8276	1.5265	0.1897	0.8271	1.0167	0.0000	3,350.2980	3,350.2980	0.5447	0.1007	3,391.7377
Maximum	**103.3280**	**39.7882**	**29.8631**	**0.0569**	**3.5960**	**1.3220**	**4.9180**	**1.7124**	**1.3210**	**3.0334**	**0.0000**	**5,458.9294**	**5,458.9294**	**1.1156**	**0.1076**	**5,518.8845**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.77**	**-26.97**	**-12.33**	**0.00**	**44.48**	**-2.99**	**34.39**	**49.10**	**-8.95**	**29.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Energy	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Mobile	1.9293	1.8594	16.5446	0.0359	3.6888	0.0254	3.7142	0.9824	0.0237	1.0061		3,689.3313	3,689.3313	0.2156	0.1602	3,742.4541
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**4.4408**	**2.7079**	**17.3016**	**0.0401**	**3.6888**	**0.0849**	**3.7737**	**0.9824**	**0.0832**	**1.0656**		**4,488.4845**	**4,488.4845**	**0.2359**	**0.1741**	**4,546.2641**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Energy	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Mobile	1.9137	1.8309	16.2779	0.0352	3.6150	0.0249	3.6399	0.9628	0.0232	0.9860		3,617.5815	3,617.5815	0.2129	0.1578	3,669.9181
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**4.4252**	**2.6794**	**17.0349**	**0.0394**	**3.6150**	**0.0845**	**3.6995**	**0.9628**	**0.0828**	**1.0456**		**4,416.7347**	**4,416.7347**	**0.2332**	**0.1717**	**4,473.7280**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.35**	**1.05**	**1.54**	**1.75**	**2.00**	**0.53**	**1.97**	**2.00**	**0.52**	**1.88**	**0.00**	**1.60**	**1.60**	**1.16**	**1.38**	**1.60**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/7/2022	4/15/2022	5	30	
2	Site Preparation	Site Preparation	4/18/2022	4/29/2022	5	10	
3	Grading	Grading	5/2/2022	5/13/2022	5	10	
4	Building Construction	Building Construction	5/2/2022	6/9/2023	5	290	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5	Paving	Paving	6/12/2023	6/23/2023	5	10	
6	Architectural Coating	Architectural Coating	6/26/2023	7/7/2023	5	10	

Acres of Grading (Site Preparation Phase): 2.2

Acres of Grading (Grading Phase): 2.2

Acres of Paving: 0.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 143,897; Non-Residential Outdoor: 47,966; Striped Parking Area: 4,512 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	62.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1284	0.0000	0.1284	0.0194	0.0000	0.0194			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.1284**	**0.8379**	**0.9663**	**0.0194**	**0.7829**	**0.8023**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.8300e-003	0.0996	0.0218	3.8000e-004	0.0105	9.3000e-004	0.0114	2.8800e-003	8.9000e-004	3.7600e-003		41.4529	41.4529	1.3700e-003	6.5700e-003	43.4436
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0378	0.0228	0.3361	9.6000e-004	0.1068	5.6000e-004	0.1074	0.0283	5.1000e-004	0.0288		97.2482	97.2482	2.6500e-003	2.4200e-003	98.0371
Total	**0.0407**	**0.1224**	**0.3579**	**1.3400e-003**	**0.1173**	**1.4900e-003**	**0.1188**	**0.0312**	**1.4000e-003**	**0.0326**		**138.7011**	**138.7011**	**4.0200e-003**	**8.9900e-003**	**141.4807**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0578	0.0000	0.0578	8.7500e-003	0.0000	8.7500e-003			0.0000			0.0000
Off-Road	0.8857	21.2053	15.4154	0.0241		0.7182	0.7182		0.7182	0.7182	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**0.8857**	**21.2053**	**15.4154**	**0.0241**	**0.0578**	**0.7182**	**0.7760**	**8.7500e-003**	**0.7182**	**0.7269**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.8300e-003	0.0996	0.0218	3.8000e-004	0.0105	9.3000e-004	0.0114	2.8800e-003	8.9000e-004	3.7600e-003		41.4529	41.4529	1.3700e-003	6.5700e-003	43.4436
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0378	0.0228	0.3361	9.6000e-004	0.1068	5.6000e-004	0.1074	0.0283	5.1000e-004	0.0288		97.2482	97.2482	2.6500e-003	2.4200e-003	98.0371
Total	**0.0407**	**0.1224**	**0.3579**	**1.3400e-003**	**0.1173**	**1.4900e-003**	**0.1188**	**0.0312**	**1.4000e-003**	**0.0326**		**138.7011**	**138.7011**	**4.0200e-003**	**8.9900e-003**	**141.4807**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2333	0.0000	0.2333	0.0252	0.0000	0.0252			0.0000			0.0000
Off-Road	1.3784	15.6673	10.0558	0.0245		0.5952	0.5952		0.5476	0.5476		2,375.1569	2,375.1569	0.7682		2,394.3613
Total	**1.3784**	**15.6673**	**10.0558**	**0.0245**	**0.2333**	**0.5952**	**0.8285**	**0.0252**	**0.5476**	**0.5728**		**2,375.1569**	**2,375.1569**	**0.7682**		**2,394.3613**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0233	0.0140	0.2068	5.9000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.2000e-004	0.0178		59.8450	59.8450	1.6300e-003	1.4900e-003	60.3305
Total	**0.0233**	**0.0140**	**0.2068**	**5.9000e-004**	**0.0657**	**3.4000e-004**	**0.0661**	**0.0174**	**3.2000e-004**	**0.0178**		**59.8450**	**59.8450**	**1.6300e-003**	**1.4900e-003**	**60.3305**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1050	0.0000	0.1050	0.0113	0.0000	0.0113			0.0000			0.0000
Off-Road	0.6625	20.0179	13.6431	0.0245		0.4988	0.4988		0.4988	0.4988	0.0000	2,375.1569	2,375.1569	0.7682		2,394.3613
Total	**0.6625**	**20.0179**	**13.6431**	**0.0245**	**0.1050**	**0.4988**	**0.6037**	**0.0113**	**0.4988**	**0.5101**	**0.0000**	**2,375.1569**	**2,375.1569**	**0.7682**		**2,394.3613**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0233	0.0140	0.2068	5.9000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.2000e-004	0.0178		59.8450	59.8450	1.6300e-003	1.4900e-003	60.3305
Total	**0.0233**	**0.0140**	**0.2068**	**5.9000e-004**	**0.0657**	**3.4000e-004**	**0.0661**	**0.0174**	**3.2000e-004**	**0.0178**		**59.8450**	**59.8450**	**1.6300e-003**	**1.4900e-003**	**60.3305**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2554	0.0000	6.2554	3.3354	0.0000	3.3354			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
Total	**1.5403**	**16.9836**	**9.2202**	**0.0206**	**6.2554**	**0.7423**	**6.9977**	**3.3354**	**0.6829**	**4.0183**		**1,995.4825**	**1,995.4825**	**0.6454**		**2,011.6169**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0291	0.0175	0.2585	7.4000e-004	0.0822	4.3000e-004	0.0826	0.0218	4.0000e-004	0.0222		74.8063	74.8063	2.0400e-003	1.8700e-003	75.4131
Total	**0.0291**	**0.0175**	**0.2585**	**7.4000e-004**	**0.0822**	**4.3000e-004**	**0.0826**	**0.0218**	**4.0000e-004**	**0.0222**		**74.8063**	**74.8063**	**2.0400e-003**	**1.8700e-003**	**75.4131**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8149	0.0000	2.8149	1.5009	0.0000	1.5009			0.0000			0.0000
Off-Road	0.6262	18.1050	12.1450	0.0206		0.4850	0.4850		0.4850	0.4850	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
Total	**0.6262**	**18.1050**	**12.1450**	**0.0206**	**2.8149**	**0.4850**	**3.3000**	**1.5009**	**0.4850**	**1.9860**	**0.0000**	**1,995.4825**	**1,995.4825**	**0.6454**		**2,011.6169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0291	0.0175	0.2585	7.4000e-004	0.0822	4.3000e-004	0.0826	0.0218	4.0000e-004	0.0222		74.8063	74.8063	2.0400e-003	1.8700e-003	75.4131
Total	**0.0291**	**0.0175**	**0.2585**	**7.4000e-004**	**0.0822**	**4.3000e-004**	**0.0826**	**0.0218**	**4.0000e-004**	**0.0222**		**74.8063**	**74.8063**	**2.0400e-003**	**1.8700e-003**	**75.4131**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0604	1.5105	0.4486	5.9300e-003	0.1896	0.0161	0.2057	0.0546	0.0154	0.0700		635.5604	635.5604	0.0138	0.0942	663.9700
Worker	0.1804	0.1088	1.6028	4.5600e-003	0.5093	2.6600e-003	0.5120	0.1351	2.4500e-003	0.1376		463.7990	463.7990	0.0126	0.0116	467.5615
Total	**0.2408**	**1.6192**	**2.0514**	**0.0105**	**0.6990**	**0.0188**	**0.7177**	**0.1897**	**0.0178**	**0.2075**		**1,099.3594**	**1,099.3594**	**0.0265**	**0.1057**	**1,131.5315**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**0.9471**	**20.0464**	**15.4081**	**0.0250**		**0.8178**	**0.8178**		**0.8178**	**0.8178**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0604	1.5105	0.4486	5.9300e-003	0.1896	0.0161	0.2057	0.0546	0.0154	0.0700		635.5604	635.5604	0.0138	0.0942	663.9700
Worker	0.1804	0.1088	1.6028	4.5600e-003	0.5093	2.6600e-003	0.5120	0.1351	2.4500e-003	0.1376		463.7990	463.7990	0.0126	0.0116	467.5615
Total	**0.2408**	**1.6192**	**2.0514**	**0.0105**	**0.6990**	**0.0188**	**0.7177**	**0.1897**	**0.0178**	**0.2075**		**1,099.3594**	**1,099.3594**	**0.0265**	**0.1057**	**1,131.5315**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**1.7136**	**13.6239**	**14.2145**	**0.0250**		**0.6136**	**0.6136**		**0.5880**	**0.5880**		**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0305	1.2010	0.3835	5.6700e-003	0.1896	7.2700e-003	0.1969	0.0546	6.9500e-003	0.0616		608.8909	608.8909	0.0125	0.0900	636.0263
Worker	0.1677	0.0963	1.4821	4.4200e-003	0.5093	2.5300e-003	0.5118	0.1351	2.3300e-003	0.1374		451.8839	451.8839	0.0114	0.0107	455.3635
Total	**0.1982**	**1.2973**	**1.8656**	**0.0101**	**0.6990**	**9.8000e-003**	**0.7088**	**0.1897**	**9.2800e-003**	**0.1990**		**1,060.7747**	**1,060.7747**	**0.0239**	**0.1007**	**1,091.3898**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**0.9471**	**20.0464**	**15.4081**	**0.0250**		**0.8178**	**0.8178**		**0.8178**	**0.8178**	**0.0000**	**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0305	1.2010	0.3835	5.6700e-003	0.1896	7.2700e-003	0.1969	0.0546	6.9500e-003	0.0616		608.8909	608.8909	0.0125	0.0900	636.0263
Worker	0.1677	0.0963	1.4821	4.4200e-003	0.5093	2.5300e-003	0.5118	0.1351	2.3300e-003	0.1374		451.8839	451.8839	0.0114	0.0107	455.3635
Total	**0.1982**	**1.2973**	**1.8656**	**0.0101**	**0.6990**	**9.8000e-003**	**0.7088**	**0.1897**	**9.2800e-003**	**0.1990**		**1,060.7747**	**1,060.7747**	**0.0239**	**0.1007**	**1,091.3898**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8802	8.6098	11.6840	0.0179		0.4338	0.4338		0.4003	0.4003		1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0898**	**8.6098**	**11.6840**	**0.0179**		**0.4338**	**0.4338**		**0.4003**	**0.4003**		**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686
Total	**0.0406**	**0.0233**	**0.3586**	**1.0700e-003**	**0.1232**	**6.1000e-004**	**0.1238**	**0.0327**	**5.6000e-004**	**0.0333**		**109.3267**	**109.3267**	**2.7600e-003**	**2.5900e-003**	**110.1686**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7344	15.6108	12.9737	0.0179		0.5580	0.5580		0.5580	0.5580	0.0000	1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9440**	**15.6108**	**12.9737**	**0.0179**		**0.5580**	**0.5580**		**0.5580**	**0.5580**	**0.0000**	**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0406	0.0233	0.3586	1.0700e-003	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		109.3267	109.3267	2.7600e-003	2.5900e-003	110.1686
Total	**0.0406**	**0.0233**	**0.3586**	**1.0700e-003**	**0.1232**	**6.1000e-004**	**0.1238**	**0.0327**	**5.6000e-004**	**0.0333**		**109.3267**	**109.3267**	**2.7600e-003**	**2.5900e-003**	**110.1686**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**103.3733**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0325	0.0186	0.2869	8.5000e-004	0.0986	4.9000e-004	0.0991	0.0262	4.5000e-004	0.0266		87.4614	87.4614	2.2100e-003	2.0700e-003	88.1349
Total	**0.0325**	**0.0186**	**0.2869**	**8.5000e-004**	**0.0986**	**4.9000e-004**	**0.0991**	**0.0262**	**4.5000e-004**	**0.0266**		**87.4614**	**87.4614**	**2.2100e-003**	**2.0700e-003**	**88.1349**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**103.2955**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0325	0.0186	0.2869	8.5000e-004	0.0986	4.9000e-004	0.0991	0.0262	4.5000e-004	0.0266		87.4614	87.4614	2.2100e-003	2.0700e-003	88.1349
Total	**0.0325**	**0.0186**	**0.2869**	**8.5000e-004**	**0.0986**	**4.9000e-004**	**0.0991**	**0.0262**	**4.5000e-004**	**0.0266**		**87.4614**	**87.4614**	**2.2100e-003**	**2.0700e-003**	**88.1349**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9137	1.8309	16.2779	0.0352	3.6150	0.0249	3.6399	0.9628	0.0232	0.9860		3,617.5815	3,617.5815	0.2129	0.1578	3,669.9181
Unmitigated	1.9293	1.8594	16.5446	0.0359	3.6888	0.0254	3.7142	0.9824	0.0237	1.0061		3,689.3313	3,689.3313	0.2156	0.1602	3,742.4541

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	699.33	182.27	106.48	1,355,306	1,328,200
Total	699.33	182.27	106.48	1,355,306	1,328,200

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Parking Lot	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Research & Development	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
NaturalGas Unmitigated	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	6457.6	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Total		**0.0696**	**0.6331**	**0.5318**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**759.7179**	**759.7179**	**0.0146**	**0.0139**	**764.2325**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	6.4576	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Total		**0.0696**	**0.6331**	**0.5318**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**759.7179**	**759.7179**	**0.0146**	**0.0139**	**764.2325**

6.0 Area Detail

6.1 Mitigation Measures Area

388 Vintage Park Drive Project - Bay Area AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Unmitigated	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2827					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6800e-003	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Total	**2.3649**	**2.6000e-004**	**0.0290**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0621**	**0.0621**	**1.6000e-004**		**0.0662**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2827					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6800e-003	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Total	**2.3649**	**2.6000e-004**	**0.0290**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0621**	**0.0621**	**1.6000e-004**		**0.0662**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	52	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**0.0770**	**0.2151**	**0.1963**	**3.7000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**		**39.3732**	**39.3732**	**5.5200e-003**		**39.5112**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

388 Vintage Park Drive Project

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	95.93	1000sqft	1.40	95,931.00	0
Enclosed Parking with Elevator	95.00	Space	0.00	38,000.00	0
Parking Lot	93.00	Space	0.80	37,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include an approximately 95,931-square-foot building including a ground-level parking garage and surface parking lot.

Construction Phase - construction of the proposed project is anticipated to begin in March 2022, last approximately 17 months, and is anticipated to be fully operational late 2023.

Demolition - Approximately 180 tons of demolition waste would be generated by the proposed project.

Grading - 2.2-acre project site.

Vehicle Trips - Weekday trip rate revised based on proposed project's estimated trip generation.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Water Mitigation - The proposed project would include low□flow indoor water fixtures.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming a 250 kW diesel generator that runs an hour a week for testing.

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	3.00	10.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	220.00	290.00
tblGrading	AcresOfGrading	10.00	2.20
tblGrading	AcresOfGrading	15.00	2.20
tblLandUse	LandUseSquareFeet	95,930.00	95,931.00
tblLandUse	LotAcreage	2.20	1.40
tblLandUse	LotAcreage	0.86	0.00
tblLandUse	LotAcreage	0.84	0.80
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	52.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	11.26	7.29

2.0 Emissions Summary

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6695	33.3365	25.8131	0.0565	7.0365	1.4637	8.5002	3.5469	1.3743	4.9212	0.0000	5,420.9134	5,420.9134	1.1175	0.1098	5,481.5652
2023	103.4065	15.0136	16.0306	0.0348	0.6990	0.6235	1.3224	0.1897	0.5973	0.7870	0.0000	3,319.1386	3,319.1386	0.5451	0.1026	3,361.1662
Maximum	**103.4065**	**33.3365**	**25.8131**	**0.0565**	**7.0365**	**1.4637**	**8.5002**	**3.5469**	**1.3743**	**4.9212**	**0.0000**	**5,420.9134**	**5,420.9134**	**1.1175**	**0.1098**	**5,481.5652**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8470	39.9003	29.7928	0.0565	3.5960	1.3220	4.9180	1.7124	1.3211	3.0335	0.0000	5,420.9134	5,420.9134	1.1175	0.1098	5,481.5652
2023	103.3288	21.4361	17.2243	0.0348	0.6990	0.8276	1.5266	0.1897	0.8271	1.0168	0.0000	3,319.1386	3,319.1386	0.5451	0.1026	3,361.1662
Maximum	**103.3288**	**39.9003**	**29.7928**	**0.0565**	**3.5960**	**1.3220**	**4.9180**	**1.7124**	**1.3211**	**3.0335**	**0.0000**	**5,420.9134**	**5,420.9134**	**1.1175**	**0.1098**	**5,481.5652**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.77**	**-26.86**	**-12.36**	**0.00**	**44.48**	**-2.99**	**34.39**	**49.10**	**-8.95**	**29.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Energy	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Mobile	1.7495	2.1439	17.5751	0.0339	3.6888	0.0254	3.7142	0.9824	0.0237	1.0061		3,482.1395	3,482.1395	0.2441	0.1758	3,540.6402
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**4.2610**	**2.9924**	**18.3321**	**0.0381**	**3.6888**	**0.0849**	**3.7737**	**0.9824**	**0.0832**	**1.0656**		**4,281.2927**	**4,281.2927**	**0.2643**	**0.1898**	**4,344.4501**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Energy	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Mobile	1.7331	2.1112	17.3182	0.0332	3.6150	0.0250	3.6399	0.9628	0.0233	0.9860		3,414.5982	3,414.5982	0.2413	0.1732	3,472.2533
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**4.2446**	**2.9597**	**18.0753**	**0.0374**	**3.6150**	**0.0845**	**3.6995**	**0.9628**	**0.0828**	**1.0456**		**4,213.7514**	**4,213.7514**	**0.2616**	**0.1872**	**4,276.0632**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.38**	**1.09**	**1.40**	**1.73**	**2.00**	**0.53**	**1.97**	**2.00**	**0.50**	**1.88**	**0.00**	**1.58**	**1.58**	**1.05**	**1.37**	**1.57**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/7/2022	4/15/2022	5	30	
2	Site Preparation	Site Preparation	4/18/2022	4/29/2022	5	10	
3	Grading	Grading	5/2/2022	5/13/2022	5	10	
4	Building Construction	Building Construction	5/2/2022	6/9/2023	5	290	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5	Paving	Paving	6/12/2023	6/23/2023	5	10	
6	Architectural Coating	Architectural Coating	6/26/2023	7/7/2023	5	10	

Acres of Grading (Site Preparation Phase): 2.2

Acres of Grading (Grading Phase): 2.2

Acres of Paving: 0.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 143,897; Non-Residential Outdoor: 47,966; Striped Parking Area: 4,512 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	62.00	28.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1284	0.0000	0.1284	0.0194	0.0000	0.0194			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.1284**	**0.8379**	**0.9663**	**0.0194**	**0.7829**	**0.8023**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7600e-003	0.1051	0.0222	3.8000e-004	0.0105	9.3000e-004	0.0114	2.8800e-003	8.9000e-004	3.7600e-003		41.4664	41.4664	1.3600e-003	6.5700e-003	43.4577
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0386	0.0282	0.3206	8.9000e-004	0.1068	5.6000e-004	0.1074	0.0283	5.1000e-004	0.0288		90.3377	90.3377	3.0000e-003	2.7900e-003	91.2450
Total	**0.0414**	**0.1333**	**0.3427**	**1.2700e-003**	**0.1173**	**1.4900e-003**	**0.1188**	**0.0312**	**1.4000e-003**	**0.0326**		**131.8041**	**131.8041**	**4.3600e-003**	**9.3600e-003**	**134.7027**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0578	0.0000	0.0578	8.7500e-003	0.0000	8.7500e-003			0.0000			0.0000
Off-Road	0.8857	21.2053	15.4154	0.0241		0.7182	0.7182		0.7182	0.7182	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**0.8857**	**21.2053**	**15.4154**	**0.0241**	**0.0578**	**0.7182**	**0.7760**	**8.7500e-003**	**0.7182**	**0.7269**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7600e-003	0.1051	0.0222	3.8000e-004	0.0105	9.3000e-004	0.0114	2.8800e-003	8.9000e-004	3.7600e-003		41.4664	41.4664	1.3600e-003	6.5700e-003	43.4577
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0386	0.0282	0.3206	8.9000e-004	0.1068	5.6000e-004	0.1074	0.0283	5.1000e-004	0.0288		90.3377	90.3377	3.0000e-003	2.7900e-003	91.2450
Total	**0.0414**	**0.1333**	**0.3427**	**1.2700e-003**	**0.1173**	**1.4900e-003**	**0.1188**	**0.0312**	**1.4000e-003**	**0.0326**		**131.8041**	**131.8041**	**4.3600e-003**	**9.3600e-003**	**134.7027**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2333	0.0000	0.2333	0.0252	0.0000	0.0252			0.0000			0.0000
Off-Road	1.3784	15.6673	10.0558	0.0245		0.5952	0.5952		0.5476	0.5476		2,375.1569	2,375.1569	0.7682		2,394.3613
Total	**1.3784**	**15.6673**	**10.0558**	**0.0245**	**0.2333**	**0.5952**	**0.8285**	**0.0252**	**0.5476**	**0.5728**		**2,375.1569**	**2,375.1569**	**0.7682**		**2,394.3613**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0238	0.0173	0.1973	5.5000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.2000e-004	0.0178		55.5924	55.5924	1.8500e-003	1.7200e-003	56.1508
Total	**0.0238**	**0.0173**	**0.1973**	**5.5000e-004**	**0.0657**	**3.4000e-004**	**0.0661**	**0.0174**	**3.2000e-004**	**0.0178**		**55.5924**	**55.5924**	**1.8500e-003**	**1.7200e-003**	**56.1508**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1050	0.0000	0.1050	0.0113	0.0000	0.0113			0.0000			0.0000
Off-Road	0.6625	20.0179	13.6431	0.0245		0.4988	0.4988		0.4988	0.4988	0.0000	2,375.1569	2,375.1569	0.7682		2,394.3613
Total	**0.6625**	**20.0179**	**13.6431**	**0.0245**	**0.1050**	**0.4988**	**0.6037**	**0.0113**	**0.4988**	**0.5101**	**0.0000**	**2,375.1569**	**2,375.1569**	**0.7682**		**2,394.3613**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0238	0.0173	0.1973	5.5000e-004	0.0657	3.4000e-004	0.0661	0.0174	3.2000e-004	0.0178		55.5924	55.5924	1.8500e-003	1.7200e-003	56.1508
Total	**0.0238**	**0.0173**	**0.1973**	**5.5000e-004**	**0.0657**	**3.4000e-004**	**0.0661**	**0.0174**	**3.2000e-004**	**0.0178**		**55.5924**	**55.5924**	**1.8500e-003**	**1.7200e-003**	**56.1508**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2554	0.0000	6.2554	3.3354	0.0000	3.3354			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
Total	**1.5403**	**16.9836**	**9.2202**	**0.0206**	**6.2554**	**0.7423**	**6.9977**	**3.3354**	**0.6829**	**4.0183**		**1,995.4825**	**1,995.4825**	**0.6454**		**2,011.6169**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0297	0.0217	0.2466	6.8000e-004	0.0822	4.3000e-004	0.0826	0.0218	4.0000e-004	0.0222		69.4905	69.4905	2.3100e-003	2.1500e-003	70.1885
Total	**0.0297**	**0.0217**	**0.2466**	**6.8000e-004**	**0.0822**	**4.3000e-004**	**0.0826**	**0.0218**	**4.0000e-004**	**0.0222**		**69.4905**	**69.4905**	**2.3100e-003**	**2.1500e-003**	**70.1885**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8149	0.0000	2.8149	1.5009	0.0000	1.5009			0.0000			0.0000
Off-Road	0.6262	18.1050	12.1450	0.0206		0.4850	0.4850		0.4850	0.4850	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
Total	**0.6262**	**18.1050**	**12.1450**	**0.0206**	**2.8149**	**0.4850**	**3.3000**	**1.5009**	**0.4850**	**1.9860**	**0.0000**	**1,995.4825**	**1,995.4825**	**0.6454**		**2,011.6169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0297	0.0217	0.2466	6.8000e-004	0.0822	4.3000e-004	0.0826	0.0218	4.0000e-004	0.0222		69.4905	69.4905	2.3100e-003	2.1500e-003	70.1885
Total	**0.0297**	**0.0217**	**0.2466**	**6.8000e-004**	**0.0822**	**4.3000e-004**	**0.0826**	**0.0218**	**4.0000e-004**	**0.0222**		**69.4905**	**69.4905**	**2.3100e-003**	**2.1500e-003**	**70.1885**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0598	1.5930	0.4643	5.9300e-003	0.1896	0.0161	0.2058	0.0546	0.0154	0.0700		635.8178	635.8178	0.0138	0.0943	664.2684
Worker	0.1842	0.1342	1.5288	4.2400e-003	0.5093	2.6600e-003	0.5120	0.1351	2.4500e-003	0.1376		430.8413	430.8413	0.0143	0.0133	435.1684
Total	**0.2440**	**1.7272**	**1.9931**	**0.0102**	**0.6990**	**0.0188**	**0.7177**	**0.1897**	**0.0179**	**0.2076**		**1,066.6591**	**1,066.6591**	**0.0281**	**0.1076**	**1,099.4368**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**0.9471**	**20.0464**	**15.4081**	**0.0250**		**0.8178**	**0.8178**		**0.8178**	**0.8178**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0598	1.5930	0.4643	5.9300e-003	0.1896	0.0161	0.2058	0.0546	0.0154	0.0700		635.8178	635.8178	0.0138	0.0943	664.2684
Worker	0.1842	0.1342	1.5288	4.2400e-003	0.5093	2.6600e-003	0.5120	0.1351	2.4500e-003	0.1376		430.8413	430.8413	0.0143	0.0133	435.1684
Total	**0.2440**	**1.7272**	**1.9931**	**0.0102**	**0.6990**	**0.0188**	**0.7177**	**0.1897**	**0.0179**	**0.2076**		**1,066.6591**	**1,066.6591**	**0.0281**	**0.1076**	**1,099.4368**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**1.7136**	**13.6239**	**14.2145**	**0.0250**		**0.6136**	**0.6136**		**0.5880**	**0.5880**		**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0294	1.2708	0.3966	5.6800e-003	0.1896	7.3000e-003	0.1969	0.0546	6.9800e-003	0.0616		609.7618	609.7618	0.0124	0.0902	636.9636
Worker	0.1720	0.1189	1.4195	4.1000e-003	0.5093	2.5300e-003	0.5118	0.1351	2.3300e-003	0.1374		419.8535	419.8535	0.0130	0.0123	423.8547
Total	**0.2014**	**1.3897**	**1.8161**	**9.7800e-003**	**0.6990**	**9.8300e-003**	**0.7088**	**0.1897**	**9.3100e-003**	**0.1990**		**1,029.6153**	**1,029.6153**	**0.0253**	**0.1026**	**1,060.8183**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9471	20.0464	15.4081	0.0250		0.8178	0.8178		0.8178	0.8178	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**0.9471**	**20.0464**	**15.4081**	**0.0250**		**0.8178**	**0.8178**		**0.8178**	**0.8178**	**0.0000**	**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0294	1.2708	0.3966	5.6800e-003	0.1896	7.3000e-003	0.1969	0.0546	6.9800e-003	0.0616		609.7618	609.7618	0.0124	0.0902	636.9636
Worker	0.1720	0.1189	1.4195	4.1000e-003	0.5093	2.5300e-003	0.5118	0.1351	2.3300e-003	0.1374		419.8535	419.8535	0.0130	0.0123	423.8547
Total	**0.2014**	**1.3897**	**1.8161**	**9.7800e-003**	**0.6990**	**9.8300e-003**	**0.7088**	**0.1897**	**9.3100e-003**	**0.1990**		**1,029.6153**	**1,029.6153**	**0.0253**	**0.1026**	**1,060.8183**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8802	8.6098	11.6840	0.0179		0.4338	0.4338		0.4003	0.4003		1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0898**	**8.6098**	**11.6840**	**0.0179**		**0.4338**	**0.4338**		**0.4003**	**0.4003**		**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455
Total	**0.0416**	**0.0288**	**0.3434**	**9.9000e-004**	**0.1232**	**6.1000e-004**	**0.1238**	**0.0327**	**5.6000e-004**	**0.0333**		**101.5775**	**101.5775**	**3.1300e-003**	**2.9900e-003**	**102.5455**

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7344	15.6108	12.9737	0.0179		0.5580	0.5580		0.5580	0.5580	0.0000	1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.2096					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9440**	**15.6108**	**12.9737**	**0.0179**		**0.5580**	**0.5580**		**0.5580**	**0.5580**	**0.0000**	**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0288	0.3434	9.9000e-004	0.1232	6.1000e-004	0.1238	0.0327	5.6000e-004	0.0333		101.5775	101.5775	3.1300e-003	2.9900e-003	102.5455
Total	**0.0416**	**0.0288**	**0.3434**	**9.9000e-004**	**0.1232**	**6.1000e-004**	**0.1238**	**0.0327**	**5.6000e-004**	**0.0333**		**101.5775**	**101.5775**	**3.1300e-003**	**2.9900e-003**	**102.5455**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**103.3733**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0333	0.0230	0.2747	7.9000e-004	0.0986	4.9000e-004	0.0991	0.0262	4.5000e-004	0.0266		81.2620	81.2620	2.5100e-003	2.3900e-003	82.0364
Total	**0.0333**	**0.0230**	**0.2747**	**7.9000e-004**	**0.0986**	**4.9000e-004**	**0.0991**	**0.0262**	**4.5000e-004**	**0.0266**		**81.2620**	**81.2620**	**2.5100e-003**	**2.3900e-003**	**82.0364**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**103.2955**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0333	0.0230	0.2747	7.9000e-004	0.0986	4.9000e-004	0.0991	0.0262	4.5000e-004	0.0266		81.2620	81.2620	2.5100e-003	2.3900e-003	82.0364
Total	**0.0333**	**0.0230**	**0.2747**	**7.9000e-004**	**0.0986**	**4.9000e-004**	**0.0991**	**0.0262**	**4.5000e-004**	**0.0266**		**81.2620**	**81.2620**	**2.5100e-003**	**2.3900e-003**	**82.0364**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7331	2.1112	17.3182	0.0332	3.6150	0.0250	3.6399	0.9628	0.0233	0.9860		3,414.5982	3,414.5982	0.2413	0.1732	3,472.2533
Unmitigated	1.7495	2.1439	17.5751	0.0339	3.6888	0.0254	3.7142	0.9824	0.0237	1.0061		3,482.1395	3,482.1395	0.2441	0.1758	3,540.6402

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	699.33	182.27	106.48	1,355,306	1,328,200
Total	699.33	182.27	106.48	1,355,306	1,328,200

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Parking Lot	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928
Research & Development	0.552821	0.058334	0.189005	0.121481	0.023262	0.005577	0.010166	0.007476	0.001000	0.000579	0.026545	0.000826	0.002928

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
NaturalGas Unmitigated	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	6457.6	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Total		**0.0696**	**0.6331**	**0.5318**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**759.7179**	**759.7179**	**0.0146**	**0.0139**	**764.2325**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	6.4576	0.0696	0.6331	0.5318	3.8000e-003		0.0481	0.0481		0.0481	0.0481		759.7179	759.7179	0.0146	0.0139	764.2325
Total		**0.0696**	**0.6331**	**0.5318**	**3.8000e-003**		**0.0481**	**0.0481**		**0.0481**	**0.0481**		**759.7179**	**759.7179**	**0.0146**	**0.0139**	**764.2325**

6.0 Area Detail

6.1 Mitigation Measures Area

388 Vintage Park Drive Project - Bay Area AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Unmitigated	2.3649	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2827					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6800e-003	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Total	**2.3649**	**2.6000e-004**	**0.0290**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0621**	**0.0621**	**1.6000e-004**		**0.0662**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2827					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.6800e-003	2.6000e-004	0.0290	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004		0.0621	0.0621	1.6000e-004		0.0662
Total	**2.3649**	**2.6000e-004**	**0.0290**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**		**0.0621**	**0.0621**	**1.6000e-004**		**0.0662**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	52	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**0.0770**	**0.2151**	**0.1963**	**3.7000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**		**39.3732**	**39.3732**	**5.5200e-003**		**39.5112**

11.0 Vegetation

APPENDIX E

NOISE DATA

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Construction Calculations

Phase: Demolition

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Dozer	80	40	50	0.5	80	76
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Tractor	80	40	50	0.5	80	76
Front Loader	79	40	50	0.5	79	75
Saws	78	4	50	0.5	78	64
				Combined at 50 feet	**90**	**83**
				Combined at Receptor 410 feet	**72**	**65**

Site Prep

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Grader	85	8	50	0.5	85	74
Scraper	88	40	50	0.5	88	84
Backhoe	85	16	50	0.5	85	77
				Combined at 50 feet	**91**	**85**
				Combined at Receptor 410 feet	**73**	**67**

Phase: Grading

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Grader	85	8	50	0.5	85	74
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Dozer	80	40	50	0.5	80	76
				Combined at 50 feet	**90**	**82**
				Combined at Receptor 410 feet	**72**	**64**

Phase:Building Construstion

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Crane	83	16	50	0.5	83	75
Forklift	75	20	50	0.5	75	68
Forklift	75	20	50	0.5	75	68
Generator	78	100	50	0.5	78	78
Backhoe	85	16	50	0.5	85	77
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
				Combined at 50 feet	**88**	**82**
				Combined at Receptor 410 feet	**70**	**64**

Phase: Paving

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Concrete Mixer	85	40	50	0.5	85	81
Paver	89	10	50	0.5	89	79
Roller	80	20	50	0.5	80	73
Roller	80	20	50	0.5	80	73
Backhoe	85	16	50	0.5	85	77
				Combined at 50 feet	**92**	**85**
				Combined at Receptor 410 feet	**74**	**66**

Phase: Architectural Coating

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Compressor	81	100	50	0.5	81	81
				Combined at 50 feet	**81**	**81**
				Combined at Receptor 410 feet	**63**	**63**

Sources: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA

[1]- Percentage of time that a piece of equipment is operating at full power

dBA – A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level

Construction Calculations

Phase: Demolition

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Dozer	80	40	50	0.5	80	76
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Tractor	80	40	50	0.5	80	76
Front Loader	79	40	50	0.5	79	75
Saws	78	4	50	0.5	78	64
			Combined at 50 feet		**90**	**83**
			Combined at Receptor 675 feet		**67**	**61**

Site Prep

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Grader	85	8	50	0.5	85	74
Scraper	88	40	50	0.5	88	84
Backhoe	85	16	50	0.5	85	77
			Combined at 50 feet		**91**	**85**
			Combined at Receptor 675 feet		**68**	**63**

Phase: Grading

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Grader	85	8	50	0.5	85	74
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Dozer	80	40	50	0.5	80	76
			Combined at 50 feet		**90**	**82**
			Combined at Receptor 675 feet		**68**	**60**

Phase:Building Construstion

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Crane	83	16	50	0.5	83	75
Forklift	75	20	50	0.5	75	68
Forklift	75	20	50	0.5	75	68
Generator	78	100	50	0.5	78	78
Backhoe	85	16	50	0.5	85	77
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
			Combined at 50 feet		**88**	**82**
			Combined at Receptor 675 feet		**66**	**60**

Phase: Paving

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Concrete Mixer	85	40	50	0.5	85	81
Paver	89	10	50	0.5	89	79
Roller	80	20	50	0.5	80	73
Roller	80	20	50	0.5	80	73
Backhoe	85	16	50	0.5	85	77
			Combined at 50 feet		**92**	**85**
			Combined at Receptor 675 feet		**70**	**62**

Phase: Architectural Coating

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA) Lmax	Noise Level (dBA) Leq
Compressor	81	100	50	0.5	81	81
			Combined at 50 feet		**81**	**81**
			Combined at Receptor 675 feet		**58**	**58**

Sources: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA

[1]- Percentage of time that a piece of equipment is operating at full power

dBA – A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level

Construction Calculations

Phase: Demolition

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA)	
					Lmax	Leq
Dozer	80	40	50	0.5	80	76
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Tractor	80	40	50	0.5	80	76
Front Loader	79	40	50	0.5	79	75
Saws	78	4	50	0.5	78	64
				Combined at 50 feet	**90**	**83**
				Combined at Receptor 7 feet	**107**	**100**

Site Prep

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA)	
					Lmax	Leq
Grader	85	8	50	0.5	85	74
Scraper	88	40	50	0.5	88	84
Backhoe	85	16	50	0.5	85	77
				Combined at 50 feet	**91**	**85**
				Combined at Receptor 9 feet	**106**	**100**

Phase: Grading

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA)	
					Lmax	Leq
Grader	85	8	50	0.5	85	74
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Dozer	80	40	50	0.5	80	76
				Combined at 50 feet	**90**	**82**
				Combined at Receptor 7 feet	**107**	**99**

Phase:Building Construstion

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA)	
					Lmax	Leq
Crane	83	16	50	0.5	83	75
Forklift	75	20	50	0.5	75	68
Forklift	75	20	50	0.5	75	68
Generator	78	100	50	0.5	78	78
Backhoe	85	16	50	0.5	85	77
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
				Combined at 50 feet	**88**	**82**
				Combined at Receptor 7 feet	**105**	**99**

Phase: Paving

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA)	
					Lmax	Leq
Concrete Mixer	85	40	50	0.5	85	81
Paver	89	10	50	0.5	89	79
Roller	80	20	50	0.5	80	73
Roller	80	20	50	0.5	80	73
Backhoe	85	16	50	0.5	85	77
				Combined at 50 feet	**92**	**85**
				Combined at Receptor 9 feet	**107**	**100**

Phase: Architectural Coating

Equipment	Reference (dBA) 50 ft Lmax	Usage Factor[1]	Distance to Receptor (ft)	Ground Effects	Noise Level (dBA)	
					Lmax	Leq
Compressor	81	100	50	0.5	81	81
				Combined at 50 feet	**81**	**81**
				Combined at Receptor 6 feet	**99**	**99**

Sources: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA

[1]- Percentage of time that a piece of equipment is operating at full power

dBA – A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level

Noise Measurement Survey – 24 HR

Project Number: CFS2101
Project Name: 388 Vintage Park

Test Personnel: Jordan Roberts
Equipment: Larson Davis Spark 706RC

Site Number: LT-1 Dates: 6/17/21 – 6/18/21 Time: From 10:30 AM To 11:00 AM

Site Location: Northwest portion of site adjacent to Home Depot parking lot near garden center. Approximately 400 feet from nearest lanes of Chess Drive.

Primary Noise Sources: Home Depot activity, rooftop mechanical equipment (tonal) from Gilead buildings, distant traffic.

Location Photo:

Noise Measurement Survey – 24 HR

Project Number: CFS2101
Project Name: 388 Vintage Park

Test Personnel: Jordan Roberts
Equipment: Larson Davis Spark 706RC

Site Number: LT-2 Dates: 6/17/21 – 6/18/21 Time: From 11:00 AM To 11:00 AM

Site Location: Southeast corner of existing building on-site, 110 feet from center of Vintage Park Drive.

Primary Noise Sources: Traffic along Vintage Park Drive and Chess Drive.

Location Photos:

APPENDIX F

WATER SUPPLY ASSESSMENT

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Technical Memorandum

HydroScience
Strategic Water Solutions

Sacramento • Berkeley • San Jose • Concord

To: Theresa Wallace, Principal-in-Charge

From: Angela Singer, PE, Project Manager
Jory Benitez, Project Engineer

Reviewed By: Mary Hoang, PE, Principal

Subject: 388 Vintage Park Drive, Foster City – Water Supply Assessment

Date: August 4, 2021

Executive Summary

California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures that sought to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require that detailed information regarding water availability be provided to the city and county decision-makers prior to approval of large development projects. The purpose of providing such information is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects, and the demands of proposed projects.

The purpose of this Water Supply Assessment (WSA) is to perform an evaluation based on California Water Code (CWC) Section 10910 through Section 10915 in connection with the proposed 388 Vintage Park Drive Redevelopment project (Proposed Project). If approved, the Proposed Project would be constructed within the General Plan boundary of the City of Foster City (City). This WSA is not intended to reserve water, or to function as a "will serve" letter or any other form of commitment to supply water (see Water Code section 10914). The provision of water service will continue to be undertaken in a manner consistent with applicable City policies and procedures, consistent with existing law.

The City is served by the Estero Municipal Improvement District (EMID) which also serves the City of San Mateo's Mariners Island area. However, EMID is governed by the City's Council and the City's Public Works department manages and operates EMID. Henceforth, the water provider will be referred to as "EMID" and will be used when discussing water supplies. "City" will only refer to the City of Foster City and will be used in discussing land use planning or City specific information.

The Proposed Project estimated water demand was included in the 2020 Urban Water Management Plan (2020 UWMP or UWMP) beginning in 2022 and does not represent an increase in the projected demands. Pursuant to Section 10910 of the CWC and based on the analysis detailed in this WSA and the representations by the Proposed Project's proponents, EMID has determined that its current projected water supplies identified in the 2020 UWMP will be sufficient to meet the existing and projected annual water demands during normal years. However, projected annual water supplies during a single dry year or multiple dry years will be insufficient to meet UWMP projected annual water demands. The WSA assumes no implementation of the Water Shortage Contingency Plan which would further reduce water demands through water use restrictions or prohibitions, further reducing the gap between water demands and supplies.

To remain conservative in the analysis, existing/historic water usage for the site was not deducted from the Proposed Project's estimated water demands. Historic water usage for the site was estimated to be greater than the Proposed Project's estimated water demands by approximately 1.6 MG annually which would result in a decrease in the total water demands from what is shown in the UWMP and used in this WSA.

Based on EMID's 100% dependence on water supplies from a single wholesale supplier and anticipated cutbacks based on potential constraints as addressed in this WSA, shortfalls of up to 46% are projected for a single dry year and up to 54% in multiple dry years. Under all dry year conditions, EMID may need to impose water conservation measures, per EMID Municipal Code, Chapter 8.60, to reduce demand.

The following are the major findings that resulted from this evaluation:

- The estimated water demand of the Proposed Project is approximately 1.8 MG per year.
- Water demand within EMID's service area is not expected to exceed EMID's supplies in any normal year between 2020 and 2045 including demands from the Proposed Project.
- During Single and Multiple Dry Years, EMID's total annual water demand is expected to exceed EMID's water supplies from 2023 to 2045 regardless of the implementation of the Proposed Project.

Introduction

The Proposed Project, if approved, would be constructed at the intersection of Vintage Park Drive and Chess Drive, at the municipal boundary between Foster City and San Mateo. The City is reviewing the potential impacts of the Proposed Project. The Proposed Project encompasses 2.2-acres and includes redevelopment of an existing site which is currently a single story 10,120 square foot (sq. ft.) vacant commercial building (El Torito Restaurant) which closed in November 2018. The Proposed Project would result in demolition of the existing restaurant building and construction of an approximately 95,931 sq. ft., four-story (68-foot tall) life science building with ground level parking and other infrastructure improvements. The purpose of this WSA is to perform an evaluation of the Proposed Project in connection with CWC Sections 10910 through 10915.

Legal Requirements for the Water Supply Assessment

California SB 610 and SB 221 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures that sought to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require that detailed information regarding water availability be provided by the water provider to the city and county planning and development decision-makers prior to approval of development projects, as defined below. The purpose of providing such information is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects, and the demands of proposed projects.

CWC Section 10912 defines "project" as any of the following:

- A proposed residential development of more than 500 dwelling units (DUs).
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified above.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-DU project.
- If a public water system has fewer than 5,000 service connections, then ''project'' means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10% or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10% or more in the number of the public water system's existing service connections.

Although the Proposed Project does not meet the definition of a "project" as defined above, a WSA is being developed due to EMID's 100% reliance on the San Francisco Public Utilities Commission (SFPUC), as its sole wholesale supplier, which anticipates substantial rationing of EMID's water supply during dry years as addressed in detail in this WSA.

Preparation of Water Supply Assessment

The Proposed Project, located in the City of Foster City, is not subject to a WSA in accordance with the CWC but is subject to California Environmental Quality Act (CEQA). However, due to general concern regarding the impacts to water supply availability in drought years, EMID is preparing a WSA for the Proposed Project to document that potential impacts have been considered and evaluated.

City Council approved and adopted the 2020 Urban Water Management Plan in July 2021. The 2020 UMWP included and addressed this Proposed Project as it was proposed and evaluated before adoption of the UWMP.

This WSA relies on the data contained in and used to develop the 2020 UWMP to analyze the availability of EMID's water supply to serve the Proposed Project along with existing and planned future uses. Unless noted, all figures in this WSA are in million gallons (MG) and are for total water demand or supply.

The findings of this WSA will be included in the environmental review process. The City's approval, denial, conditional approval or any act on this WSA does not guarantee that the Proposed Project will be approved and does not obligate the City to approve, deny, conditionally approve, take any action, or make any decision on the Proposed Project application.

Purpose of Water Supply Assessment

The purpose of this WSA is to perform the evaluation, as defined by CWC Sections 10910 through 10915 (SB 610), in connection with the Proposed Project. This WSA is not intended to reserve water, or to function as a "will serve" letter or any other form of commitment to supply water (see CWC Section 10914), nor is it intended to meet the requirements of SB 221. The provision of water service will continue to be undertaken in a manner consistent with applicable City policies and procedures, consistent with existing law.

Description of Proposed Project

A general description of the Proposed Project location, proposed land uses, projected water demand, and proposed water supply is provided below.

Proposed Project Location

The location of the Proposed Project is approximately a 2.2-acre site located at 388 Vintage Park Drive in Foster City, San Mateo County. Foster City is located approximately 23 miles south of San Francisco, at the southwest end of the San Francisco Bay (Bay). The Proposed Project site is adjacent to the intersection of Vintage Park Drive and Chess Drive at the municipal boundary between Foster City and San Mateo. The Proposed Project site is bordered by the Gilead Sciences campus to the north and east, Home Depot warehouse store to the west, and Chess Drive retail restaurant development to the south (**Figure 1**).

The existing project site is currently developed with a single-story approximately 10,120 sq. ft. vacant commercial building. The existing building was constructed in approximately 1990 and was previously occupied by the El Torito Restaurant until November 2018. The Proposed Project would result in the demolition of the existing restaurant building and construction of an approximately 95,931-square-foot, four-story (68-foot-tall) Class B life sciences office and research and development laboratory space (50/50 office to lab ratio). The building will include a ground-level parking garage with approximately 188 vehicle parking spaces, as well as associated open space, circulation and parking, and infrastructure improvements.

FIGURE 1
CITY OF FOSTER CITY
388 VINTAGE PARK DRIVE REDEVELOPMENT WSA
PROJECT LOCATION MAP

HydroScience

Proposed Land Uses

The Proposed Project site is currently designated Research/Office Park in the City's General Plan. This designation is intended for areas containing office, research and development, and manufacturing establishments whose operations are clean and quiet. Mixed-use projects which include some retail and residential uses in addition to office and research uses may, under certain conditions, be considered compatible with this designation.

The Proposed Project site is located within the Commercial Mix District/Planned Development Combining District (C-M/PD). The C-M district is required to be used only in conjunction with the combining zone PD, which is designed to accommodate various types of development and allow flexibility of design that is in accordance with the objectives and spirit of the General Plan. The project site is also part of the Vintage Park General Development Plan, which designates the site for restaurant use.

Proposed Project Water Demands

As part of the WSA analysis, HydroScience reviewed projected demands prepared by Maddaus Water Management Inc. (MWM), historical water use data for the site, as well as water use factors developed as part of EMID's 2020 Water Distribution System Master Plan (Water Master Plan). Provided below is an assessment of the data.

Water Capacity Investigation (MWM): In October 2020, the developer retained MWM to estimate the water demands of the Proposed Project (**Table 1**). Unit water use factors for projecting water demand were based on City records as well as referencing 20+ years of experience from conducting audits for commercial buildings in Foster City. The resulting demand for the Proposed Project was 5.7 acre-feet per year (AFY, 1.8 MGY). This water usage estimation was included in the 2020 UWMP projections. This analysis did not include credit for the historic water usage for the site pre-2018 (before restaurant closure). However, as shown in **Table 2** on the following page, the historic usage for the site was, on average, 3.4 MG annually. Therefore, with the construction of the Proposed Project, the total demand for the site would result in a *decrease* of 1.6 MG annually compared to previous usage. Unit water use factors were based on water use data for similar buildings in Foster City (Gilead Sciences) which included landscape irrigation demands and office space cooling tower water usage. The MWM analysis is included in **Appendix A**.

Table 1: Estimated Annual Water Demand for Proposed Project Per MWM Assessment

Land Use Designation	Status	Use Type	Size	Units	Demand (MGY)	Demand (AFY)
R&D Space[1]	Proposed	Commercial	47,965	sq. ft.	1.2	3.7
Office Space[2]	Proposed	Commercial	47,965	sq. ft.	0.6	2.0
Total Demand (increase per year)					**1.8**	**5.7**

Source: Water Capacity Investigation for 388 Vintage Park Road, Foster City, Maddaus Water Management Inc., October 15, 2020
Notes:
1. Unit water use factor is based on 2014-2017 water use data from Gilead Sciences 355 Lakeside Drive. Includes landscape irrigation. Assumes 25 gpy/sq. ft. demand use factor.
2. Unit water use factor is based on 2014-2017 water use data from Gilead Sciences 309 Velocity Way. Includes landscape irrigation. Assumes 13 gpy/sq. ft. demand use factor. Also based on large office with cooling tower water use.
3. Historic usage was not included in analysis, so no existing water use is assumed.

Water Master Plan: In April 2020, HydroScience prepared the EMID Water Master Plan. Land-use based water use factors were developed using a combination of GIS mapping tools and water use data. Water use factors were developed using a combination of the GIS zone mapping for the baseline and 2040 condition, GIS parcel mapping, GIS vacant parcel mapping, GIS meter shapefile, as-built drawings for future developments, GIS water meter mapping, review of available aerial imagery data, and metered customer data from July 2012 through May 2017.

Water use factors were developed for the entire EMID service area according to existing land use zoning GIS maps. Depending on the customer type, the use factors were either in gpd/acre or gpd/DU. The Proposed Project and similar facility land use are considered "commercial" for the purpose of the Master Plan.

For the WSA analysis, the projected 2040 water use factor was used to estimate water demands for the Proposed Project. Based on the water use factor for the commercial use type, the estimated water demand of the Proposed Project is approximately 1.3 MGY. However, if the historic usage is taken into account, then the site would result in a *decrease* of 2.1 MG annually compared to previous usage. The estimated water demand based on land use-based demand factors, is included in **Appendix B**.

Table 2: Existing and Estimated Annual Water Demand for Proposed Project per Water Master Plan

Land Use Designation	Status	Use Type	Size	Units	Demand (MGY)	Demand (AFY)
R&D + Office Space[1]	Proposed	Commercial	2.2	acre	1.3	4.1
Historic Usage[2]	Existing	Commercial	2.2	acre	(3.4)	(10.4)
Net Annual Demand					**(2.1)**	**(6.3)**

Notes:
1. Unit water use factor is based on Master plan water use factor for commercial use type facilities. Includes landscape irrigation. Assumes 1,656 gpd/acre.
2. Historic usage is based on 2012-2017 metered usage for existing site (El Torito Restaurant) prior to closure in 2018, including landscape demands.

Summary: Under either condition, there would be no net increase in water demand. However, to be conservative, the projection made by MWM (without credit for historic water usage) will be used for this WSA. Therefore, the increase in water demand for EMID's service area, used for the WSA evaluation and included in the projections in the 2020 UWMP, will be 1.8 MG annually beginning in 2022.

Recycled Water

The Proposed Project will not use recycled water. EMID currently does not provide recycled water services and is in the process of evaluating the feasibility of a recycled water treatment facility and distribution system. Therefore, recycled water supplies are not available for use at the Proposed Project.

Projected Water Supply for Proposed Project

Water demands for the Proposed Project will be served using EMID's existing and future portfolio of water supplies as addressed in the 2020 UWMP and water supply section of this WSA. The inclusion of existing and planned future supplies is specifically allowed by the CWC.

Required SB 610 Determinations

The following determinations must be made, pursuant to SB 610.

Does SB 610 Apply to the Proposed Project?

Water Code section 10910(a)
Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act Division 13 (commencing with Section 21000) of the Public Resources Code, under Section 21080 of the Public Resources Code shall comply with this part.

Water Code section 10912
For the purposes of this part, the following terms have the following meanings:
(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.
(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
(4) A proposed hotel or motel, or both, having more than 500 rooms.
(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
(6) A mixed-use project that includes one or more of the projects specified in this subdivision.
(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Based on the following assumptions, SB 610 only partially applies.

- The Proposed Project is subject to CEQA and an EIR is required.
- The Proposed Project does not meet the definition of a "Project" as specified in Water Code section 10912(a) (shown above). However, given the Proposed Project's (and EMID's) reliance on solely one wholesale supplier (SFPUC) for water supply and anticipated reduced rationing during dry years, a WSA is being developed by the City in order to document the consideration of potential impacts to the water supply.

Has an Assessment Already Been Prepared that Includes this Project?

Water Code section 10910
(h) Notwithstanding any other provision of this part, if a project has been the subject of a water assessment that complies with the requirements of this part, no additional water assessment shall be required for subsequent projects that were part of a larger project for which a water assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.
(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.
(3) *Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.*

The Proposed Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Therefore, a WSA will be pursued for the Proposed Project.

Does SB 221 Apply to the Proposed Project?

Government Code section 65867.5
(c) A development agreement that includes a subdivision, as defined in section 66473.7, shall not be approved unless the agreement provides that any tentative map prepared for the subdivision will comply with the provisions of section 66473.7.

Government Code section 66473.7
(a) For the purposes of this section, the following definitions apply:
(1) "Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections.
(b) (1) The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.
(i) This section shall not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households.

In 2001, SB 221 amended State law to require that approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. Per California Government Code section 66473.7(a)(1), a subdivision means a proposed residential development of more than 500 DUs. The Proposed Project is not subject to the requirements of SB 221.

Who will Prepare the SB 610 Assessment for the Proposed Project?

Water Code section 10910
(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project.

Water Code section 10912
(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections.

The Proposed Project area is within the City boundary limits. The City of Foster City is served by EMID which also serves Mariner's Island, an area of the City of San Mateo. However, EMID is governed by the City's Council and the City's Public Works department manages and operates EMID. Therefore, the City is the identified party to prepare the WSA for the Proposed Project.

Does the City have an adopted UWMP and does the UWMP include the projected water demand for the Proposed Project?

Water Code section 10910
(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

The California Urban Water Management Planning Act (§10610 et. seq. of the CWC) requires urban water suppliers providing over 3,000 acre-feet per year (AFY) of water or having a minimum of 3,000 service connections to prepare plans (Urban Water Management Plans or UWMPs) on a five-year, ongoing basis. An UWMP must demonstrate the continued ability of the provider to serve customers with water supplies that meet current and future expected demands under normal, single dry, and multiple dry year scenarios. These plans must also include the assessment of urban water conservation measures and wastewater recycling. Pursuant to Section 10632 of the CWC, the plans must also include a water shortage contingency plan outlining how the water provider will manage water shortages, including shortages of up to 50% of their normal supplies, and catastrophic interruptions of water supply. The City of Foster City is required to prepare an Urban Water Management Plan for EMID. The City's most recent Urban Water Management Plan (2020 UWMP) was adopted in July 2021. The 2020 UWMP is a projection of demands and supplies for 25 years through the year 2045.

As provided for in the State law, this WSA incorporates by reference, and relies upon many of the planning assumptions and projections of, the 2020 UWMP in assessing the water demands of the Proposed Project relative to the overall increase in water demands expected within the entire EMID service area. The 2020 UWMP projected a moderate increase in water demand within EMID's service area due to historical water use, expected population and employment growth estimates, climatic variability, water conservation and other assumptions. The 2020 UWMP projected overall total water demand within EMID to increase from 1,596 MG in year 2020 to 1,805 MG in year 2045, a net increase of 209 MG (approximately 13%). This increase accounts for passive and active conservation measures.

The Proposed Project is a development in line with the site's General Plan Land Use Designation. The development was also specifically listed as a project under consideration by the City Council but not approved at the time of the adoption of the 2020 UWMP. However, the demands of the Proposed Project were included in the demand projections of the 2020 UWMP.

EMID's ability to meet the projected water demands for the Proposed Project, as defined by the City's 2020 UWMP, is described in this WSA.

EMID Water Service Area

Water Code section 10631 (Urban Water Management Plan Requirements)
(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

This section presents EMID's water service area including history and growth information. The information provided in this section references and/or is excerpted from the 2020 UWMP.

General Description

EMID serves a population of approximately 36,516 and is located on the San Francisco Bay Peninsula, midway between San Francisco and San Jose. The EMID service area is located approximately 10 miles south of the San Francisco International Airport and adjacent to the entrance of the San Mateo/EMID Bridge. The EMID service area consists of the City of Foster City and a portion of the City of San Mateo immediately adjacent to the west, referred to as the Mariners Island area. EMID's customers are mostly residential with a broad cross-section of offices, commercial businesses, biotech research and development businesses, and a small number of industrial businesses.

EMID purchases all of its potable water from the SFPUC Regional Water System (RWS) and is a member of Bay Area Water Supply and Conservation Agency (BAWSCA). Water distribution, water conservation, and maintenance of water quality are EMID's main water resource functions, as treated water purchased from the SFPUC RWS does not require further water treatment.

Current and Projected Population

Table 3 presents EMID's estimated 2020 and projected population. EMID's 2020 residential population is just over 36,500, based on the output from the California DWR Population Tool. Population projections for 2025 through 2040 are based on projections provided by the Foster City Community Development Department for the City of Foster City and the City of San Mateo Community Development Department for Mariners Island. The population projection for 2045 was interpolated based on the population data provided, resulting in an assumed an annual growth rate of approximately 0.62% between 2040 and 2045.

Table 3: EMID Existing and Projected Service Area Population

	2020	2025	2030	2035	2040	2045
Population Served	36,516	36,932	37,602	38,848	40,107	41,366

Notes:
1. Source: City of Foster City 2020 UWMP, Table 3-1 Population – Current and Projected.

Land Uses within Service Area

As of 2014, the existing land use within the City is a mix of 46% Residential; 19% Public and Semi-Public Streets; 17% Recreation, Open Space, and Lagoons; and 16% Commercial and Industrial. Land use in the service area within the City of San Mateo is a mix of Residential, Recreation, and Commercial. Today, the City of Foster City is largely built-out. The population is expected to increase modestly in the future due to planned redevelopment projects as described in the Foster City General Plan Land Use and Circulation Element adopted in 2016. The main goals of the redevelopment projects are to aggregate and redevelop both under-used properties and outdated buildings in the older commercial and industrial areas of the City and to make progress towards meeting housing goals established in the Foster City General Plan's Housing Element. Within the EMID service area, the City of San Mateo plans to potentially redevelop portions of the Bridgepointe Shopping Center allowing for modest increases in homes, jobs, and population.

Projected Employment

EMID employment numbers for 2020 and 2025-2040 projections (**Table 4**) were developed for the 2020 UWMP using Foster City Community Development Department projections for Foster City and City of San Mateo Community Development Department for Mariners Island. The employment projection for 2045 was interpolated based on the employment data provided, resulting in an assumed an annual growth rate of approximately 1.04% between 2040 and 2045.

Table 4: EMID Existing and Projected Employment

	2020	2025	2030	2035	2040	2045
Service Area Employment	30,122	33,938	38,855	41,137	43,434	45,731

Notes:
1. Source: City of Foster City 2020 UWMP, Table 3-3 Employment – Current and Projected.

Service Area Climate

The EMID service area is located within a region characterized by a Mediterranean climate with cool, wet winters and warm, dry summers. As shown in **Table 5**, rainfall in the area averages 18.8 inches per year and is generally confined to the wet season from late October to early May. The average reference evapotranspiration (ET_o) for the region is 44 inches per year. The ET_o is a standard measurement related to the water demand by plants in a specific region. Because the average annual ET_o is approximately 25 inches more than the average annual precipitation, and because 90% of the annual precipitation occurs between the months of November and April, growing turf or other plantings in this region requires a significant amount of irrigation during the dry season. This irrigation demand contributes to the overall and observed seasonal variation in water demand throughout the EMID service area.

Table 5: Average Monthly Climatic Conditions

Month	Average Temperature (ºF)		Standard Average ET_0 (inches)	Average Rainfall (inches)
	Min	Max		
January	39.5	58.4	1.4	4.2
February	41.8	61.9	2.0	3.41
March	43.7	65.5	3.3	2.71
April	45.4	69.9	4.4	1.19
May	48.9	74.3	5.4	0.43
June	52.5	79.6	6.0	0.13
July	54.9	82.2	6.2	0.02
August	54.8	81.7	5.4	0.04
September	53.2	80.6	4.4	0.16
October	49.1	74.7	3.1	0.93
November	43.5	65.4	1.7	2.02
December	39.9	58.8	1.2	3.51
Annual	**47.2**	**71.1**	**44.5**	**18.8**

Notes:
1. Source: City of Foster City 2020 UWMP, Table 3-4 Climate Characteristics.

Climate Change Considerations

Projections of climate change in California indicate a further intensification of wet and dry extremes and shifting temperature. Within the County of San Mateo, where EMID is located, the average temperature is expected to increase 3.2°F to 5.4°F by 2090.

Changing climate can affect both water uses and supplies. For example, extreme and higher temperatures can lead to increases in water use; declining snowpack and earlier runoff patterns could result in changes in stream flows and reservoir operations; projection of frequent, severe, prolonged droughts could lead to not only less surface water available, but also exacerbate ongoing stressors in groundwater basins. Some of these pressures are already apparent in California as of 2021.

Information regarding the impacts of climate change to the SFPUC RWS supply was provided by BAWSCA in coordination with SFPUC.

The SFPUC views assessment of the effects of climate change as an ongoing project requiring regular updating to reflect improvements in climate science, atmospheric/ocean modeling, and human response to the threat of greenhouse gas emissions. Climate change research by the SFPUC began in 2009 and continues to be refined. In its 2012 report "Sensitivity of Upper Tuolumne River Flow to Climate Change Scenarios," the SFPUC assessed the sensitivity of runoff into Hetch Hetchy Reservoir to a range of changes in temperature and precipitation due to climate change. Key conclusions from the report include the following:

- With differing increases in temperature alone, the median annual runoff at Hetch Hetchy would decrease by 0.7-2.1% from present-day conditions by 2040 and by 2.6-10.2% from present-day by 2100. Adding differing decreases in precipitation on top of temperature increases, the median annual runoff at Hetch Hetchy would decrease by 7.6-8.6% from present-day conditions by 2040 and by 24.7-29.4% from present-day conditions by 2100.
- In critically dry years, these reductions in annual runoff at Hetch Hetchy would be significantly greater, with runoff decreasing up to 46.5% from present day conditions by 2100 utilizing the same climate change scenarios.
- In addition to the total change in runoff, there will be a shift in the annual distribution of runoff. Winter and early spring runoff would increase, and late spring and summer runoff would decrease.
- Under all scenarios, snow accumulation would be reduced, and snow would melt earlier in the spring, with significant reductions in maximum peak snow water equivalent under most scenarios.

Currently, the SFPUC is conducting a comprehensive assessment of the potential effects of climate change on water supply using a wide range of plausible increases in temperature and changes in precipitation to address the wide uncertainty in climate projections over the planning horizon 2020 to 2070. There are many uncertain factors such as climate change, changing regulations, water quality, growth and economic cycles that may create vulnerabilities for the Regional Water System's ability to meet levels of service. The uncertainties associated with the degree to which these factors will occur and how much risk they present to the water system is difficult to predict, but nonetheless they need to be considered in SFPUC planning. To address this planning challenge, the project uses a vulnerability-based planning approach to explore a range of future conditions to identify vulnerabilities, assess the risks associated with these vulnerabilities that could lead to developing an adaptation plan that is flexible and robust to a wide range of future outcomes.

EMID Water Demands

Water Code section 10910
(c) (2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).
(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20- year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

Water Code section 10631 (Urban Water Management Plan Requirements)
(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(2) The water use projections shall be in the same five-year increments described in subdivision (a).

Some of the information provided in this section references and/or is excerpted from the 2020 UWMP.

Existing and Projected Water Demand

EMID's total water demand is equal to the total volume of potable water EMID purchases from SFPUC. EMID's total water demand includes water consumed by metered accounts in the service area (metered water use), unmetered water use, and the water that is lost within the distribution system (losses).

Potable water demand within the EMID service area is measured using water meters that are installed at each customer account. Records of historical and current water use at each account are maintained by the City's Public Works Department, in coordination with the Finance Department. Water demand within the EMID service area is tracked and reported on a monthly basis for the following sectors:

- **Single Family Residential:** Single-family, detached DUs that are individually metered.
- **Multi-Family Residential:** Two or more DUs contained within one building or several buildings within one complex. Water use is predominately for indoor water uses; irrigation water use for multiple family sites are usually separately metered and listed in the landscape sector.
- **Commercial (includes Institutional/Governmental):** Includes commercial customers that provides or distributes a product or service (Commercial) and connections dedicated to public

service, including schools and other government facilities (Institutional/Governmental). Landscape irrigation water use at these sites is usually separately metered and listed in the landscape sector.

- **Industrial:** Includes customers that are primarily manufacturers or processors of materials. Landscape irrigation water use at these sites is usually separately metered and listed in the landscape sector.
- **Landscape:** Water connections supplying water exclusively for landscape irrigation uses associated with multiple family residential customers (i.e., Homeowner Associations; HOAs) and other irrigation sites.
- **Other Potable - Fire:** Water meters that supply water exclusively for fire suppression or fire system maintenance.

EMID provided data on metered production and consumption by water use sector from 1994 through 2020, number of accounts by sector over the same period, information on water conservation, and additional information for the historical and projected use analyses. As shown in **Table 6**, potable water use within EMID's service area totaled 1,596 MG in 2020, of which 55% was residential use (22% single-family residential and 33% multi-family residential). The remaining water use was split between commercial and institutional (11%), industrial (2%), dedicated irrigation (24%), fire meters (0.1%), and distribution system losses (8%).

Table 6: EMID Actual Total Water Demands for 2016-2020, MG

Year	2016	2017	2018	2019	2020
Gross Water Use	1,322	1,402	1,547	1,473	1,596

Notes:
1. Source: City of Foster City 2020 UWMP, Table 4-2 Demands for Potable and Non-Potable Water – Actual.

In 2020, future water demands for the EMID's service area were projected by BAWSCA on behalf of EMID and other BAWSCA member agencies in the Regional Water Demand and Conservation Projections Report. Future water demands were projected using the Demand Management Decision Support System Model (DSS Model) and were a function of the population and employment projections within EMID's service area. A detailed description of the DSS Model and the associated demand and conservation projection methodology is provided in the 2020 UWMP.

In 2021, as part of the 2020 UWMP update, EMID's DSS Model was revised to account for changes to the population projections since the demand projections were estimated by BAWSCA. The 2021 DSS Model update included revised population projections consistent with the population projections presented in **Table 3**. Passive and active water conservation savings associated with existing water uses in EMID's service area have been subtracted from the water demand projections. "Passive conservation" refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs implemented by water suppliers. "Active conservation" refers to water savings resulting from EMID's implementation of water conservation programs, education programs, and the offering of financial incentives (e.g., rebates). Projected water uses by sector through 2045 are summarized in **Table 7** according to the 2021 DSS Model results.

Table 7: EMID Projected Total Water Demand in Normal Years, MG

Water Use Sector	2025	2030	2035	2040	2045
Single-Family Residential	349	344	346	350	355
Multi-Family Residential	498	483	478	477	478
Commercial	187	205	213	221	230
Industrial	26	29	30	32	33
Landscape Irrigation	421	448	471	496	559
Other	1	1	1	1	1
Non-Revenue Water	134	137	141	145	150
Total Water Demand	**1,615**	**1,646**	**1,681**	**1,723**	**1,805**

Notes:
1. Source: City of Foster City 2020 UWMP, Table 4-4 Use for Potable and Non-Potable - Projected.

Dry Year Demands

EMID's Water Shortage Contingency Plan (WSCP) includes a six-stage plan describing water conservation measures to reduce water demand by more than 50% in the event of a water supply shortage or emergency. The water shortage stages, and their respective anticipated reduction in potable water demand, are shown in **Table 8**.

Table 8: EMID's Water Shortage Continency Plan Projected Demand Reduction

Stage	Percent Supply Reduction
I	Up to 10%
II	Up to 20%
III	Up to 30%
IV	Up to 40%
V	Up to 50%
VI	Greater than 50%

Notes:
1. Source: City of Foster City 2020 UWMP, Table 5-3 Water Shortage Contingency Plan Projected Demand Reduction.

When comparing potable water supply to demand in the City's 2020 UWMP and in this WSA, the dry year water demands are assumed to not include implementation of the EMID's WSCP. This is a conservative assumption as additional water conservation will likely occur as a result of the City's implementation of its WSCP; in response to dry years or other water supply shortages. **Table 9** presents the projected future dry year potable water demand.

Table 9: EMID Projected Total Water Demand in Dry Years, MG

	Potable Water Demand				
Water Use Sector	**2025**	**2030**	**2035**	**2040**	**2045**
Single Dry Year	1,615	1,646	1,681	1,723	1,805
Multiple Dry Year 1	1,615	1,646	1,681	1,723	1,805
Multiple Dry Year 2	1,615	1,646	1,681	1,723	1,805
Multiple Dry Year 3	1,615	1,646	1,681	1,723	1,805
Multiple Dry Year 4	1,615	1,646	1,681	1,723	1,805
Multiple Dry Year 5	1,615	1,646	1,681	1,723	1,805

Notes:
1. Assumes dry year demands will be similar to demands during normal years.
2. Assumes no demand reduction in dry years for conservatism.

A critical component of the new statutory language in CWC § 10635(b) is the requirement to prepare a five-year Drought Risk Assessment (DRA) as part of the 2020 UWMP. The five-year DRA can also be used to provide the water service reliability assessment for a drought lasting five years. As a first step, the Division of Water Resources recommends that the expected gross water use for the next five years without drought conditions (also known as *unconstrained demand*) be estimated. These numbers can then be adjusted to estimate the five-years' cumulative drought effects. The DRA is based on EMID's demand projections from the 2021 DSS Model over the next five years, as shown in **Table 10**.

Table 10: EMID Projected Total Water Demands for 5-year DRA

Year	**2021**	**2022**	**2023**	**2024**	**2025**
Gross Water Use	1,595	1,600	1,607	1,614	1,615

Notes:
1. Source: City of Foster City 2020 UWMP, Table 4-9 Characteristic Five-Year Water Use.

EMID Water Supplies

(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.
(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:
(A) Written contracts or other proof of entitlement to an identified water supply.
(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.
(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

This section presents EMID's surface water supply and water supply reliability including regulatory background information on EMID's source of water supply. The information provided in this section references and/or is excerpted from the 2020 UWMP.

Sources of Water Supply

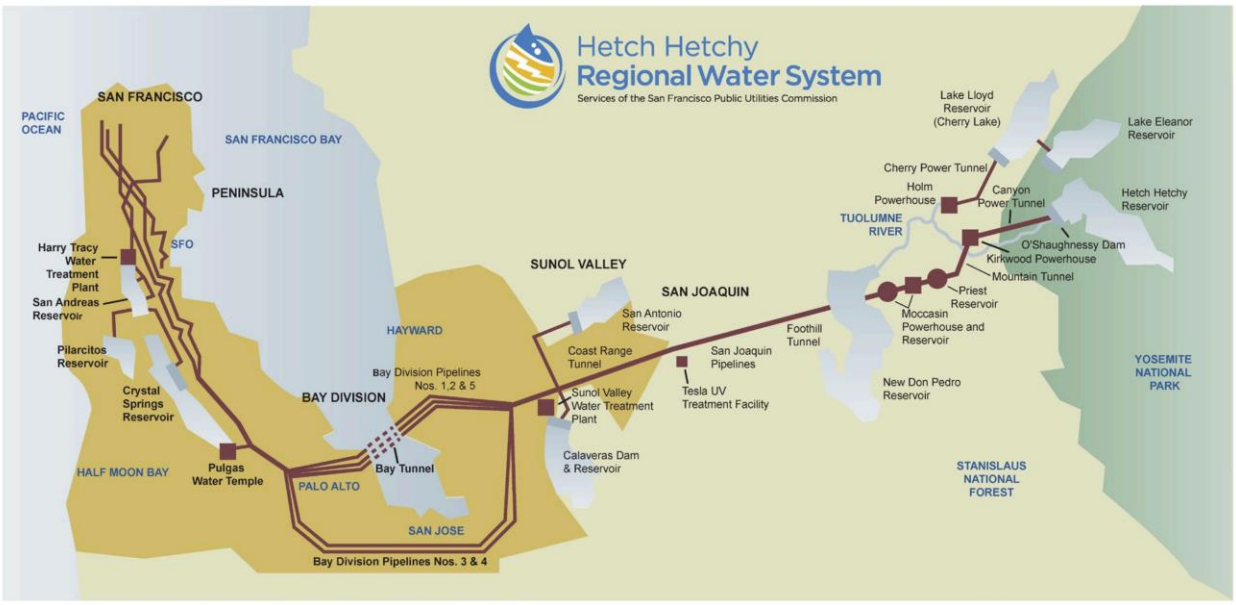
EMID's sole source of potable water is purchased water from the SFPUC. EMID purchases water from the SFPUC in accordance with the 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties, approved by the Commission on 28 April 2009 and amended in November 2018. Per the 2009 Water Supply Agreement, San Francisco has a perpetual commitment (Supply Assurance) to deliver 184 million gallons per day (MGD) to the 24 permanent Wholesale Customers, including EMID, collectively.

To maintain consistency with the UWMPs prepared by the SFPUC and the other BAWSCA member agencies, much of the language describing the SFPUC wholesale water supply in the following sections is common language provided by BAWSCA, in coordination with the SFPUC.

Description of SFPUC

Approximately 85% of the water supply to the SFPUC RWS originates in the Hetch Hetchy watershed, located in Yosemite National Park, and flows down the Tuolumne River into the Hetch Hetchy Reservoir. Water from the Hetch Hetchy watershed is managed through the Hetch Hetchy Water and Power Project. The remaining 15% of the water supply to the SFPUC RWS originates locally in the Alameda and Peninsula watersheds and is stored in six different reservoirs in Alameda and San Mateo Counties. Details of the various components of the SFPUC RWS are provided below and are shown in **Figure 2**.

Figure 2: Regional Water System (RWS)



Water Distribution

The RWS consists of more than 280 miles of pipelines, 60 miles of tunnels, 11 reservoirs, five pump stations, and two water treatment plants. It includes the Hetch Hetchy Project and the Bay Area water system facilities. The Hetch Hetchy Project is generally composed of the reservoirs, hydroelectric generation and transmission facilities, and water transmission facilities from the Hetch Hetchy Valley west to the Alameda East Portal of the Coast Range Tunnel in Sunol Valley. Water system components of the Hetch Hetchy Project are also referred to as the Hetch Hetchy System. The local Bay Area water system is comprised of two parts—the Alameda System and the Peninsula System—generally consisting of the facilities west of the Alameda East Portal of the Coast Range Tunnel, including the 63,000-acre Alameda and Peninsula watersheds, storage reservoirs, two water treatment plants, and the distribution system that delivers water to both retail and wholesale customers. The Hetch Hetchy, Alameda, and Peninsula Systems are described in more detail below.

- **Hetch Hetchy System:** In the Hetch Hetchy System, water is diverted from Hetch Hetchy Reservoir into a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel, which connects to the Alameda System at the Alameda East Portal. Hetch Hetchy System water is disinfected at the Tesla Treatment Facility.
- **Alameda System:** The Alameda System includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the San Antonio Creek, Upper Alameda Creek, and Arroyo Hondo watersheds in Alameda County. San Antonio Reservoir also receives water from the Hetch Hetchy System. Conveyance facilities in the Alameda System connect the Hetch Hetchy System and Alameda water sources to the Peninsula System. The BDPLs cross the South Bay to the Peninsula System delivering water to customers along the pipeline route. The Sunol Valley Water Treatment Plant (SVWTP) filters and disinfects water supplied from San Antonio Reservoir and Calaveras Reservoir.
- **Peninsula System:** The Peninsula System includes conveyance facilities connecting the BDPLs to the in-City distribution system and to other customers on the Peninsula. Two reservoirs, Crystal Springs Reservoir and San Andreas Reservoir, collect runoff from the San Mateo Creek watershed. Crystal Springs Reservoir also receives water from the Hetch Hetchy System. A third reservoir, Pilarcitos Reservoir, collects runoff from the Pilarcitos Creek watershed and directly serves one of the Wholesale Customers, the Coastside County Water District (which includes the City of Half Moon Bay), along with delivering water to Crystal Springs and San Andreas Reservoirs. The Harry Tracy Water Treatment Plant (HTWTP) filters and disinfects water supplied from Crystal Springs Reservoir and San Andreas Reservoir before it is delivered to customers on the Peninsula and the in-City distribution system.

Water Treatment

The Hetch Hetchy Reservoir is the largest unfiltered water supply on the West Coast, and one of only a few large unfiltered municipal water supplies in the nation. The water originates from well-protected wilderness areas in Yosemite National Park, which flows down the Tuolumne River to Hetch Hetchy Reservoir. This water meets or exceeds all federal and State criteria for watershed protection. Water from Hetch Hetchy Reservoir is protected in pipes and tunnels as it is conveyed to the Bay Area, and requires pH adjustment to control pipeline corrosion and disinfection for bacteria control. Based on the SFPUC's disinfection treatment practice, extensive bacteriological

quality monitoring, and high operational standards, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (SWRCB) Division of Drinking Water determined that the Hetch Hetchy water source meets federal and State drinking water quality requirements without the need for filtration.

A new USEPA regulation took effect in 2012 requiring secondary disinfection for all unfiltered drinking water systems to control the waterborne parasite cryptosporidium. To comply with this regulation, the SFPUC completed construction of a new ultraviolet (UV) treatment facility in 2011. The Tesla Treatment Facility is a key component of the Water System Improvement Program (WSIP) and enhances the high-quality water from the RWS. The facility has a capacity of 315 MGD, making it the third largest UV drinking water disinfection facility in the U.S.

All water derived from sources other than Hetch Hetchy Reservoir is treated at one of two treatment plants: the SVWTP or the HTWTP. The SVWTP primarily treats water from the Alameda System reservoirs and has both a peak capacity and sustainable capacity of 160 MGD. Treatment processes include coagulation, flocculation, sedimentation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. Fluoridation, chloramination, and corrosion control treatment can also be provided for the combined Hetch Hetchy System and SVWTP water at the Sunol Valley Chloramination Facility. The HTWTP treats water from the Peninsula System reservoirs and has a peak capacity of 180 MGD and a sustainable capacity of 140 MGD. Treatment processes include ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. Major upgrades to the SVWTP were completed in 2013 and to the HTWTP in 2015.

Water Storage

The majority of the water delivered by the SFPUC is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada. Three major reservoirs collect runoff: Hetch Hetchy Reservoir, Lake Lloyd (a.k.a., Cherry Lake), and Lake Eleanor. A “water bank” in Don Pedro Reservoir is also integrated into system operations.16 Don Pedro Reservoir, which is jointly owned and operated by Modesto Irrigation District and Turlock Irrigation District (the Districts), is located on the Tuolumne River downstream of the Hetch Hetchy System.

As a by-product of water delivery and water supply management, hydroelectric power is generated by the Hetch Hetchy Water and Power System. Water stored in Hetch Hetchy Reservoir is used for hydroelectric generation and also satisfies instream flow requirements when released downstream. Normally, only Hetch Hetchy Reservoir water supplies are exported to the Bay Area, while releases from Lake Eleanor and Lake Lloyd are used to satisfy instream flow requirements, satisfy Raker Act entitlements to the districts downstream, and produce hydroelectric power. The Hetch Hetchy Water and Power System includes three major hydroelectric powerhouses along the Tuolumne River—Holm, Kirkwood, and Moccasin—that have a collective generating capacity of nearly 400 megawatts.

Downstream of the Hetchy Hetchy System, the SFPUC utilizes local watersheds in the Bay Area. Crystal Springs, San Andreas, and Pilarcitos Reservoirs, located in San Mateo County, capture local runoff in the Peninsula watershed, and Calaveras and San Antonio Reservoirs, located in Alameda Country, capture local runoff in the Alameda watershed. In addition to capturing local runoff, San Andreas, San Antonio, and Crystal Springs Reservoirs also provide storage for water

from the Hetch Hetchy System and, along with Calaveras Reservoir, are an important water supply in the event of an interruption to Hetch Hetchy System deliveries.

Calaveras Reservoir had been operating in recent years at one-third of its capacity due to restrictions imposed by the DWR Division of Safety of Dams. The Calaveras Dam Replacement Project, which took place from 2011 to 2019, involved the construction of a new dam downstream of the existing dam. The SFPUC began impounding water behind the new dam in the winter of 2018/2019 and continued the initial fill of the reservoir during the 2019/2020 winter season.

Individual Supply Guarantees

San Francisco has a perpetual commitment (Supply Assurance) to deliver 184 MGD to the 24 permanent Wholesale Customers collectively. San Jose and Santa Clara are not included in the Supply Assurance commitment, and each has temporary and interruptible water supply contracts with San Francisco. The Supply Assurance is allocated among the 24 permanent Wholesale Customers through Individual Supply Guarantees (ISG), which represent each Wholesale Customer's allocation of the 184 MGD Supply Assurance.

EMID's ISG is 5.9 MGD, or approximately 2,154 MG per year. Between 2016 and 2020, EMID purchased between 61% and 74% of its ISG (see **Table 11**).

2028 SFPUC Decisions (formerly 2018 SFPUC Decisions)

Information regarding the 2028 SFPUC Decisions (formerly 2018 SFPUC Decision) was provided by BAWSCA in coordination with SFPUC.

In the 2009 Water Supply Agreement, the SFPUC committed to make three decisions before 2018 that affect water supply development:

- Whether or not to make the cities of San Jose and Santa Clara permanent customers,
- Whether or not to supply the additional unmet supply needs of the Wholesale Customers beyond 2018, and
- Whether or not to increase the wholesale customer Supply Assurance above 184 MGD. Events since 2009 made it difficult for the SFPUC to conduct the necessary water supply planning and CEQA analysis required to make these three decisions before 2018. Therefore, in the 2018 Amended and Restated Water Supply Agreement, the decisions were deferred for ten years to 2028.

Additionally, there have been recent changes to instream flow requirements and customer demand projections that have affected water supply planning beyond 2018. As a result, the SFPUC has established an Alternative Water Supply Planning (AWSP) program to evaluate several regional and local water supply options. Through this program, the SFPUC will conduct feasibility studies and develop an Alternative Water Supply Plan by July 2023 to support the continued development of water supplies to meet future needs.

SFPUC Water Supply Projects

EMID's wholesaler SFPUC has been implementing its Water System Improvement Plan (WSIP) since it was adopted in 2008. The WSIP includes several water supply projects to address the Level of Service (LOS) Goals and Objective established in the WSIP and updated in February 2020. SFPUC has also developed an AWSP Program to explore other projects that would increase overall water supply resiliency.

EMID Water Supply Projects

The most recent update to EMID's Capital Improvement Plan (CIP) was developed in the Master Plan. None of the projects identified in the CIP will increase the amount of potable supply available to EMID. The San Mateo WWTP is undergoing extensive upgrades that are projected to be completed by 2024. EMID and other agencies are exploring alternatives for using recycled water produced by the WWTP, including serving tertiary treated water to customers in the EMID service area, as well as other parts of the City of San Mateo, and other regional water reuse alternatives. Given that the implementation of the potential recycled water project is uncertain, it is not included in future supply projections.

Regulatory Conditions and Project Development

Emerging regulatory conditions (e.g., issues surrounding the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan Amendment]) may affect planned future projects and the characterization of future water supply availability and analysis. EMID currently does not have any plans to develop new supply sources. If EMID does move forward with any plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

Existing and Projected Water Supply

EMID purchases potable water from the SFPUC to meet all of the potable water demands within EMID's service area. In 2020, EMID received approximately 1,596 MG from the SFPUC (**Table 11**).

EMID plans to continue exclusively purchasing wholesale water from the SFPUC to meet its potable demands. Water supplies from the SFPUC RWS through 2045 are projected to be equivalent to EMID's ISG of 2,154 MG, under a normal hydrologic year, which is EMID's contractual entitlement to SFPUC wholesale water and survives in perpetuity. The EMID's total water supply projections are shown in **Table 12** in five-year increments through 2045.

Table 11: EMID Actual Water Supply for 2016-2020, MG

Potable Water Source	2016	2017	2018	2019	2020
SFPUC	1,323	1,402	1,548	1,473	1,596
Total Water Supply	**1,323**	**1,402**	**1,548**	**1,473**	**1,596**

Notes:
1. Source: City of Foster City 2020 UWMP, Table 6-8 Water Supplies – Actual.

Table 12: EMID Projected Total Water Supply in Normal Years, MG

Potable Water Source	2020	2025	2030	2035	2040
SFPUC	2,154	2,154	2,154	2,154	2,154
Total Water Supply	**2,154**	**2,154**	**2,154**	**2,154**	**2,154**

Notes:
1. Source: City of Foster City 2020 UWMP, Table 6-9 Water Supplies – Projected.

Potable Water Supply Reliability

Water Code section 10631 (Urban Water Management Plan requirements)
(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
(1) An average water year.
(2) A single dry water year.
(3) Multiple dry water years.
For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.
Note: Water Code section 10632 requires that the Urban Water Management Plan include a water shortage contingency analysis.

EMID purchases all of its potable water supply from the SFPUC. The reliability of the SFPUC is anticipated to vary greatly in different year types. EMID has relied on the supply reliability estimates provided by the SFPUC and the drought allocation structure provided by SFPUC and the BAWSCA to estimate available supplies in dry year types through 2045. The information provided in this section references and/or is excerpted from the 2020 UWMP.

Surface Water Reliability Constraints

EMID purchases all its potable water supply from the SFPUC. The following narrative discusses potential issues and constraints on water supply availability.

Bay-Delta Plan Amendment Impacts

In December 2018, the SWRCB adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan

Amendment requires the release of 30-50% of the "unimpaired flow" on the three tributaries from February through June in every year type. In SFPUC modeling of the new flow standard, it is assumed that the required release is 40% of unimpaired flow. Based on information provided by SFPUC and BAWSCA the adoption of the 2018 Bay-Delta Plan Amendment is anticipated to impact the reliability of the RWS supplies in the future.

SFPUC Supply Modeled RWS Dry Year Supply Availability

As described in SFPUC's 2020 UWMP, SFPUC used the Hetch Hetchy and Local Simulation Model (HHLSM) to estimate SFPUC RWS supply availability for water service reliability assessment and the DRA. HHLSM simulates supplies over a historical record of hydrology from 1920 through 2017 with a representation of current and planned SFPUC RWS infrastructure and operations.

Water supply shortfalls presented by SFPUC were estimated using SFPUC's design drought methodology. The SFPUC uses a hypothetical 8.5-year design drought that is more severe than what the RWS has historically experienced as the basis for planning and modeling of future scenarios. The design drought consists of the 1987-92 drought, followed by an additional 2.5 years of dry conditions from the hydrologic record that include the 1976-77 drought. The five-consecutive-year dry sequence used for the UWMP represents years 2 through 6 of the design drought. However, the modeling approach assumes water supply rationing each year that is designed to provide sufficient carry-over water in SFPUC reservoirs to continue delivering water, although at reduced levels, during each year of the five-consecutive year drought and the remaining years of the design drought.

SFPUC provided results for two modeled scenarios, which show significantly different supply reliability projections for the RWS:

1. With full implementation of the Bay-Delta Plan Amendment in 2023
2. Without implementation of the Bay-Delta Plan Amendment

Consistent with SFPUC's approach and guidance from SFPUC and BAWSCA, EMID's UWMP presents results for the water service reliability assessment and the DRA based on the modeling scenario that assumes full implementation of the Bay Delta Plan Amendment in 2023.

Supply Reliability

The following narratives compare EMID's projected water supply availability during normal, single dry, and multiple dry years to assess the reliability of EMID's water supplies.

Average year

EMID is expected to have adequate water supplies during normal years to meet its projected demands through 2045. As discussed previously, in accordance with the SFPUC's perpetual obligation to EMID's Supply Assurance, EMID has an ISG of 5.9 million gallons per day (MGD), or 2,154 million gallons (MG) per year. SFPUC is obligated to provide EMID with up to 100% of EMID's ISG during normal years.

Single dry year

The reliability of the SFPUC supply is anticipated to vary greatly in different year types. EMID has relied on the supply reliability estimates provided by the SFPUC for the RWS and the drought allocation structure provided by SFPUC and BAWSCA to estimate available RWS supplies in dry year types through 2045. In a single dry year EMID anticipates a deficit ranging from 36% to 46% of the total projected demand for all years.

Multiple dry year

Based on the supply reliability estimates and allocation structure provided by SFPUC and BAWSCA, supply totals were projected for a multiple dry year period extending five years. EMID expects a deficit in meeting the projected total water demand of 36% to 54% beginning in the first year of a drought.

Table 13 shows the projected supply totals under a normal, single dry and multiple dry year period extending five years.

Table 13: EMID Projected Total Water Supply under Normal, Single and Multiple Dry Years, MG

Hydrologic Condition	2025	2030	2035	2040	2045
Normal Year	2,154	2,154	2,154	2,154	2,154
Single Dry Year	1,033	1,049	1,067	1,093	984
Multiple Dry Year 1	1,033	1,049	1,067	1,093	984
Multiple Dry Year 2	885	900	915	938	984
Multiple Dry Year 3	885	900	915	938	984
Multiple Dry Year 4	885	900	915	827	836
Multiple Dry Year 5	885	900	838	827	836

Notes:
1. Source: City of Foster City 2020 UWMP, Table 7-3 through 7-5 Supply and Demand Comparison tables.

Five-Year Consecutive Drought Risk Assessment

The available potable water supplies assumed in the DRA are based upon the same methodology and assumptions used for the long-term water service reliability assessment and relies on information provided by SFPUC and BAWSCA. The available RWS water supplies are estimated based on the following assumptions: (1) The RWS demands are held constant at 132.1 MGD (i.e., 2020 demand levels), (2) implementation of the Bay-Delta Plan Amendment occurs in 2023, and (3) the 2020 infrastructure conditions are maintained.

EMID's available potable water supplies during the five-consecutive-year drought are based upon information provided by SFPUC and BAWSCA. Specifically, based on the modeling results presented by SFPUC, BAWSCA provided individual agency drought allocation volumes for 2021 to 2025 in the BAWSCA drought allocation tables, which are reproduced for EMID in **Table 14** below.

Table 14: EMID Projected Total Water Supplies for 5-year DRA

Year	2021	2022	2023	2024	2025
Total Water Supply	1,635	1,646	873	873	873

Notes:
1. Source: City of Foster City 2020 UWMP, Table 7-7 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b).

Uncertainties in Dry Year Water Supply Projections

The water supply projections presented above likely represent a worst-case scenario in which the Bay-Delta Plan Amendment is implemented without the SFPUC and the SWRCB reaching a Voluntary Agreement and do not account for implementation of SFPUC's AWSP, described in more detail below. Under this supply scenario, SFPUC appears not to be able to meet its contractual obligations and EMID's forecasted demands during droughts.

The current sources of uncertainty in the dry year water supply projections are summarized below:

- Implementation of the Bay-Delta Plan Amendment is under negotiation. The SFPUC is continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. The SFPUC, in partnership with other key stakeholders, has proposed a voluntary substitute agreement to the Bay-Delta Plan Amendment, the TRVA, that provides a collaborative approach to protect the environment and plan for a reliable and high-quality future potable water supply. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations.
- Benefits of the AWSP are not accounted for in current supply projections. SFPUC is exploring options to increase its supplies through the AWSP. Implementation of feasible projects developed under the AWSP is not yet reflected in the supply reliability scenarios presented herein and is anticipated to reduce the projected RWS supply shortfalls.
- Methodology for drought allocations have not been established for wholesale shortages greater than 20%. The drought allocation plans are not designed for RWS supply shortages of greater than 20%. For UWMP planning purposes per BAWSCA guidance, the Wholesale share for a 16% to 20% supply reduction (62.5%) has been applied for reductions greater than 20% and an equal percent reduction has been applied across all Wholesale agencies. BAWSCA member agencies have not formally agreed to adopt this shortage allocation methodology and are in discussions about jointly developing an alternative allocation method that would consider additional equity factors if SFPUC is unable to deliver its contractual supply volume and cutbacks to the RWS supply exceed 20%.
- RWS demands are subject to change. The RWS supply availability is dependent upon the system demands. The supply scenarios are based on the total projected Wholesale Customer purchases provided by BAWSCA to SFPUC in January 2021. Many BAWSCA agencies have refined their projected demands during the UWMP process after these estimates were provided to SFPUC. Furthermore, the RWS demand projections are subject to change in the future based upon future housing needs, increased conservation, and development of additional local supplies.
- Frequency and duration of cutbacks are also uncertain. While the projected shortfalls presented in the UWMP appear severe, the actual frequency and duration of such shortfalls

are uncertain. Based on the HHLSM simulations provided by BAWSCA for the with Bay-Delta Plan Amendment scenario, rationing is anticipated to be required 20% of years for base year 2025 through 2035, 23% of all years for base year 2040, and 25% of years for base year 2045. In addition to the supply volumes, the above listed uncertainties would also impact the projected frequency and duration of shortfalls.

Determination of Water Supply Sufficiency based on Requirements of SB 610

Water Code section 10910(c)
(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

Water Code section 10911
(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

Summary of Water Demand and Supplies with Proposed Project

Pursuant to Water Code section 10910(c)(4) and based on the technical analyses described in this WSA, the total projected water supplies determined to be available for the Proposed Project during Normal years during a 20-year projection will meet the projected water demand of the Proposed Project. However, projected supplies during Single Dry, and Multiple Dry years during a 20-year projection will not meet the projected water demand associated with the Proposed Project, in addition to existing and planned future uses.

A comparison of EMID's projected potable water supplies and demands are shown in **Table 15**, **Table 16**, **Table 17**, **Table 18** for a consecutive five-year DRA, Normal, Single Dry, and Multiple Dry Years, respectively.

As shown in **Table 16**, demand within the EMID's service area is not expected to exceed the EMID's supplies in any Normal year between 2020 and 2045.

For purposes of this WSA, no demand reductions are assumed during dry years. With this assumption, EMID's water demands are expected to exceed water supplies in Single Dry Years and Multiple Dry Years.

Table 15: EMID Water Demand and Supplies for DRA's Five-Consecutive Years, MG

Description	2021	2022	2023	2024	2025
Total Water Supply	1,635	1,646	873	873	873
Total Water Demand	1,595	1,600	1,607	1,614	1,615
Surplus/(Shortfall)	**40**	**46**	**(734)**	**(741)**	**(742)**

Notes:
1. Total water demand includes the demands of the Proposed Project beginning in year 2022.
2. Source: City of Foster City 2020 UWMP, Table 7-3 through 7-5 Supply and Demand Comparison tables.

Table 16: EMID Water Demand and Supplies for Normal Year, MG

Description	2025	2030	2035	2040	2045
Total Water Supply	2,154	2,154	2,154	2,154	2,154
Total Water Demand	1,615	1,646	1,681	1,723	1,805
Surplus/(Shortfall)	**539**	**508**	**473**	**431**	**349**

Notes:
1. Total water demand includes the demands of the Proposed Project.
2. Source: City of Foster City 2020 UWMP, Table 7-3 Normal Year Supply and Demand Comparison.

Table 17: EMID Water Demand and Supplies for Single Dry Year, MG

Description	2025	2030	2035	2040	2045
Total Water Supply	1,033	1,049	1,067	1,093	984
Total Water Demand	1,615	1,646	1,681	1,723	1,805
Surplus/(Shortfall)	**(582)**	**(597)**	**(614)**	**(630)**	**(821)**

Notes:
1. Total water demand includes the demands of the Proposed Project.
2. Source: City of Foster City 2020 UWMP, Table 7-4 Single Dry Year Supply and Demand Comparison.

Table 18: EMID Water Demand and Supplies for Multiple Dry Years, MG

	Description	2025	2030	2035	2040	2045
First Year	Total Water Supply	1,033	1,049	1,067	1,093	984
	Total Water Demand	1,615	1,646	1,681	1,723	1,805
	Surplus/(Shortfall)	**(582)**	**(597)**	**(614)**	**(630)**	**(821)**
Second Year	Total Water Supply	885	900	915	938	984
	Total Water Demand	1,615	1,646	1,681	1,723	1,805
	Surplus/(Shortfall)	**(730)**	**(746)**	**(766)**	**(785)**	**(821)**
Third Year	Total Water Supply	885	900	915	938	984
	Total Water Demand	1,615	1,646	1,681	1,723	1,805
	Surplus/(Shortfall)	**(730)**	**(746)**	**(766)**	**(785)**	**(821)**
Fourth Year	Total Water Supply	885	900	915	827	836
	Total Water Demand	1,615	1,646	1,681	1,723	1,805
	Surplus/(Shortfall)	**(730)**	**(746)**	**(766)**	**(896)**	**(969)**
Fifth Year	Total Water Supply	885	900	838	827	836
	Total Water Demand	1,615	1,646	1,681	1,723	1,805
	Surplus/(Shortfall)	**(730)**	**(746)**	**(843)**	**(896)**	**(969)**

Notes:
1. Total water demand includes the demands of the Proposed Project.
2. Source: City of Foster City 2020 UWMP, Table 7-5 Multiple Dry Years Supply and Demand Comparison.

Strategies and Actions to Address Dry Year Supply Shortfalls

Water Code section 10911
(a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.
(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.
(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

As stated previously, the Proposed Project is not subject to a WSA. The projected shortfall in water supplies during Single and Multiple dry years for a 20-year projection, as shown in the UWMP is not due to the construction of the Proposed Project. The Proposed Project is estimated to reduce the water demands of the Proposed Project site by 1.6 MG based on historical usage.

EMID does not have plans to acquire additional water supplies as a retail supplier. However, EMID, SFPUC, and BAWSCA have developed strategies and actions to address the projected dry year supply shortfalls. These efforts are discussed in the following sections.

SFPUC and other Regional Actions and Strategies

The WSIP authorized the SFPUC to undertake a number of water supply projects to meet dry-year demands with no greater than 20% system-wide rationing in any one year. Implementation of these projects is also expected to mitigate impacts of the implementation of the Bay-Delta Plan Amendment. Those projects include the following:

- Calaveras Dam Replacement Project. Calaveras Dam is located near a seismically active fault zone and was determined to be seismically vulnerable. To address this vulnerability, the SFPUC constructed a new dam of equal height downstream of the existing dam. Construction on the project occurred between 2011 and July 2019. The SFPUC began impounding water behind the new dam in accordance with California Division of Safety of Dams (DSOD) guidance in the winter of 2018/2019.
- Alameda Creek Recapture Project. As a part of the regulatory requirements for future operations of Calaveras Reservoir, the SFPUC must implement bypass and instream flow schedules for Alameda Creek. The Alameda Creek Recapture Project will recapture a portion of the water system yield lost due to the instream flow releases at Calaveras Reservoir or bypassed around the Alameda Creek Diversion Dam and return this yield to the RWS through facilities in the Sunol Valley. Water that naturally infiltrates from Alameda Creek will be recaptured into an existing quarry pond known as SMP (Surface Mining Permit)- 24 Pond F2. The project will be designed to allow the recaptured water to be pumped to the Sunol Valley Water Treatment Plant or to San Antonio Reservoir. Construction of this project will occur from spring 2021 to fall 2022.
- Lower Crystal Springs Dam Improvements. The Lower Crystal Springs Dam (LCSD) Improvements were substantially completed in November 2011. The joint San Mateo County/SFPUC Bridge Replacement Project to replace the bridge across the dam was completed in January 2019. A WSIP follow up project to modify the LCSD Stilling Basin for fish habitat and upgrade the fish water release and other valves started in April 2019. While the main improvements to the dam have been completed, environmental permitting issues for reservoir operation remain significant. While the reservoir elevation was lowered due to DSOD restrictions, the habitat for the Fountain Thistle, an endangered plant, followed the lowered reservoir elevation. Raising the reservoir elevation now requires that new plant populations be restored incrementally before the reservoir elevation is raised. The result is that it may be several years before pre-project water storage volumes can be restored.
- Regional Groundwater Storage and Recovery Project. The Groundwater Storage and Recovery (GSR) Project is a strategic partnership between SFPUC and three San Mateo County agencies – Cal Water, the City of Daly City, and the City of San Bruno – to conjunctively operate the south Westside Groundwater Basin. The project sustainably manages groundwater and surface water resources in a way that provides supplies during times of drought. During years of normal or heavy rainfall, the project would provide additional surface water to the partner agencies in San Mateo County in lieu of groundwater pumping. Over time, reduced pumping creates water storage through natural recharge of up to 20 billion gallons of new water supply available during dry years. The project's Final Environmental

Impact Report was certified in August 2014, and the project also received Commission approval that month. Phase 1 of this project consists of construction of thirteen well sites and is over 99% complete. Phase 2 of this project consists of completing construction of the well station at the South San Francisco Main site and some carryover work that has not been completed from Phase 1. Phase 2 design work began in December 2019.

- 2 MGD Dry-year Water Transfer. In 2012, the dry-year transfer was proposed between the Modesto Irrigation District and the SFPUC. Negotiations were terminated because an agreement could not be reached. Subsequently, the SFPUC had discussions with the Oakdale Irrigation District for a one-year transfer agreement with the SFPUC for 2 MGD (2,240 AF). No progress towards agreement on a transfer was made in 2019, but the irrigation districts recognize SFPUC's continued interest and SFPUC will continue to pursue transfers.

Alternative Water Supply Program

With the adoption of the Bay-Delta Plan Phase 1 (Bay-Delta Plan Amendment) by the State Water Resources Control Board in December of 2018, coupled with the uncertainties associated with litigation and the development of Voluntary Agreements that, if successful, would provide an alternative to the 40% unimpaired flow requirement that is required by the Bay-Delta Plan Amendment, BAWSCA redoubled its efforts to ensure that the SFPUC took necessary action to develop alternative water supplies such that they would be in place to fill any potential gap in supply by implementation of the Bay-Delta Plan Amendment and that the SFPUC would be able to meet its legal and contractual obligations to its Wholesale Customers.

In 2019, BAWSCA held numerous meetings with the SFPUC encouraging them to develop a division within their organization whose chief mission was to spearhead alternative water supply development. On June 25, 2019, BAWSCA provided a written and oral statement to the Commissioners urging the SFPUC to focus on developing new sources of supply in a manner similar to how it addressed the implementation of the WSIP. BAWSCA urged that a new water supply program was called for, with clear objectives, persistent focus, a dedicated team, adequate funding, and a plan for successful execution. The SFPUC Commission supported BAWSCA's recommendation and directed staff to undertake such an approach.

In early 2020, the SFPUC began implementation of the Alternative Water Supply Planning Program (AWSP), a program designed to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS. Included in the AWSP is a suite of diverse, non-traditional supply projects that, to a great degree, leverage regional partnerships and are designed to meet the water supply needs of the SFPUC Retail and Wholesale Customers through 2045. As of the most recent Alternative Water Supply Planning Quarterly Update, SFPUC has budgeted $264 million over the next ten years to fund water supply projects. BAWSCA is heavily engaged with the SFPUC on its AWSP efforts.

The SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would increase overall water supply resilience through the AWSP. The drivers for the program include: (1) the adoption of the Bay-Delta Plan Amendment and the resulting potential limitations to RWS supply during dry years, (2) the net supply shortfall following the implementation of WSIP, (3) San Francisco's perpetual obligation to supply 184 MGD to the Wholesale Customers, (4) adopted LOS Goals to limit rationing to no more than 20% system-wide during droughts, and (5) the potential need to identify water supplies that would be required to offer permanent status to interruptible customers. Developing additional supplies through this

program would reduce water supply shortfalls and reduce rationing associated with such shortfalls. The planning priorities guiding the framework of the AWSP are as follows:

1. Offset instream flow needs and meet regulatory requirements
2. Meet existing obligations to existing permanent customers
3. Make interruptible customers permanent
4. Meet increased demands of existing and interruptible customers

In conjunction with these planning priorities, the SFPUC considers how the program fits within the LOS Goals and Objectives related to water supply and sustainability when considering new water supply opportunities. The key LOS Goals and Objectives relevant to this effort can be summarized as:

- Meet dry-year delivery needs while limiting rationing to a maximum of 20% system-wide reduction in water service during extended droughts;
- Diversify water supply options during non-drought and drought periods;
- Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers;
- Meet, at a minimum, all current and anticipated legal requirements for protection of fish and wildlife habitat;
- Maintain operational flexibility (although this LOS Goal was not intended explicitly for the addition of new supplies, it is applicate here).

Together, the planning priorities and LOS Goals and Objectives provide a lens through which the SFPUC considers water supply options and opportunities to meet all foreseeable water supply needs.

In addition to the Daly City Recycled Water Expansion project, which was a potential project identified in the SFPUC's 2015 UWMP and had committed funding at that time, the SFPUC has taken action to fund the study of potential additional water supply projects. Capital projects under consideration to develop additional water supplies include surface water storage expansion, recycled water expansion, water transfers, desalination, and potable reuse. A more detailed list and descriptions of these efforts are provided below.

The capital projects that are under consideration would be costly and are still in the early feasibility or conceptual planning stages. Because these water supply projects would take 10 to 30 years to implement, and because required environmental permitting negotiations may reduce the amount of water that can be developed, the yield from these projects are not currently incorporated into SFPUC's supply projections. State and federal grants and other financing opportunities would be pursued for eligible projects, to the extent feasible, to offset costs borne by ratepayers.

- Daly City Recycled Water Expansion (Regional, Normal- and Dry-Year Supply). This project can produce up to 3 MGD of tertiary recycled water during the irrigation season (~7 months). On an average annual basis, this is equivalent to 1.25 MGD or 1,400 AFY. The project is envisioned to provide recycled water to 13 cemeteries and other smaller irrigation customers, offsetting existing groundwater pumping from the South Westside Groundwater Basin; this will free up groundwater, enhancing the reliability of the Basin. The project is a regional

partnership between the SFPUC and Daly City. The irrigation customers are located largely within California Water Service's (Cal Water's) service area. RWS customers will benefit from the increased reliability of the South Westside Basin for additional drinking water supply during droughts. In this way, this project supports the GSR Project, which is under construction.

- ACWD-USD Purified Water Partnership (Regional, Normal- and Dry-Year Supply). This project could provide a new purified water supply utilizing Union Sanitary District's (USD) treated wastewater. Purified water produced by advanced water treatment at USD could be transmitted to the Quarry Lakes Groundwater Recharge Area to supplement recharge into the Niles Cone Groundwater Basin or put to other uses in Alameda County Water District's (ACWD) service area. With the additional water supply to ACWD, an in-lieu exchange with the SFPUC would result in more water left in the RWS. Additional water supply could also be directly transmitted to the SFPUC through a new intertie between ACWD and the SFPUC.
- Crystal Springs Purified Water (Regional, Normal- and Dry-Year Supply). The Crystal Springs Purified Water (PREP) Project is a purified water project that could provide 6-12 MGD of water supply through reservoir water augmentation at Crystal Springs Reservoir, which is a facility of the RWS. Treated wastewater from Silicon Valley Clean Water (SVCW) and/or the City of San Mateo would go through an advanced water treatment plant to produce purified water that meets state and federal drinking water quality standards. The purified water would then be transmitted 10 to 20 miles (depending on the alignment) to Crystal Springs Reservoir, blended with regional surface water supplies and treated again at Harry Tracy Water Treatment Plant. Project partners include the SFPUC, BAWSCA, SVCW, CalWater, Redwood City, Foster City, and the City of San Mateo. Partner agencies are contributing financial and staff resources towards the work effort.
- Los Vaqueros Reservoir Expansion (Regional, Dry Year Supply). The Los Vaqueros Reservoir Expansion (LVE) Project is a storage project that will enlarge the existing reservoir located in northeastern Contra Costa County from 160,000 AF to 275,000 AF. While the existing reservoir is owned and operated by the Contra Costa Water District (CCWD), the expansion will have regional benefits and will be managed by a Joint Powers Authority (JPA) that will be set up prior to construction. Meanwhile, CCWD is leading the planning, design and environmental review efforts. CCWD's Board certified the EIS/EIR and approved the LVE Project on May 13, 2020. The additional storage capacity from the LVE Project would provide a dry year water supply benefit to the SFPUC. BAWSCA is working in concert with the SFPUC to support their work effort on the LVE project.
- Bay Area Brackish Water Desalination (Regional, Normal- and Dry-Year Supply). The Bay Area Brackish Water Desalination (Regional Desalination) Project is a partnership between CCWD, the SFPUC, Valley Water, and Zone 7 Water Agency. The East Bay Municipal Utilities District (EBMUD) and ACWD may also participate in the project. The project could provide a new drinking water supply to the region by treating brackish water from CCWD's existing Mallard Slough intake in Contra Costa County. While this project has independent utility as a water supply project, for the current planning effort the SFPUC is considering it as a source of supply for storage in LVE. While the allocations remain to be determined among partners, the SFPUC is considering a water supply benefit of between 5 and 15 MGD during drought conditions when combined with storage at LVE.
- Calaveras Reservoir Expansion (Regional, Dry Year Supply). Calaveras Reservoir would be expanded to create 289,000 AF additional capacity to store excess RWS supplies or other source water in wet and normal years. In addition to reservoir enlargement, the project would

involve infrastructure to pump water to the reservoir, such as pump stations and transmission facilities.

- Groundwater Banking. Groundwater banking in the Modesto Irrigation District (MID) and Turlock Irrigation District (TID) service areas could be used to provide some additional water supply to meet instream releases in dry years reducing water supply impacts to the SFPUC service area. For example, additional surface water could be provided to irrigators in wet years, which would offset the use of groundwater, thereby allowing the groundwater to remain in the basin rather than be consumptively used. The groundwater that remains in the basin can then be used in a subsequent dry year for irrigation, freeing up surface water that would have otherwise been delivered to irrigators to meet instream flow requirements. A feasibility study of this option is included in the proposed Tuolumne River Voluntary Agreement. Progress on this potential water supply option will depend on the negotiations of the Voluntary Agreement.
- Inter-Basin Collaborations. Inter-Basin Collaborations could provide net water supply benefits in dry years by sharing responsibility for in-stream flows in the San Joaquin River and Delta more broadly among several tributary reservoir systems. One mechanism by which this could be accomplished would be to establish a partnership between interests on the Tuolumne River and those on the Stanislaus River, which would allow responsibility for streamflow to be assigned variably based on the annual hydrology. As is the case with Groundwater Banking, feasibility of this option is included in the proposed Tuolumne River Voluntary Agreement.

If all the projects identified through the current planning process can be implemented, there would still be a supply shortfall to meet projected needs. Furthermore, each of the supply options being considered has its own inherent challenges and uncertainties that may affect the SFPUC's ability to implement it.

Given the limited availability of water supply alternatives - unless the supply risks are significantly reduced or our needs change significantly - the SFPUC will continue to plan, develop, and implement all project opportunities that can help bridge the anticipated water supply gaps during droughts. In 2019, the SFPUC completed a survey among water and wastewater agencies within the service area to identify additional opportunities for purified water. Such opportunities remain limited, but the SFPUC continues to pursue all possibilities.

BAWSCA's Long Term Reliability Water Supply Strategy

BAWSCA's Long-Term Reliable Water Supply Strategy (Strategy), completed in February 2015, quantified the water supply reliability needs of the BAWSCA member agencies through 2040, identified the water supply management projects and/or programs (projects) that could be developed to meet those needs, and prepared an implementation plan for the Strategy's recommendations.

When the 2015 Demand Study concluded it was determined that while there is no longer a regional normal year supply shortfall, there was a regional drought year supply shortfall of up to 43 MGD. In addition, key findings from the Strategy's project evaluation analysis included:

- Water transfers represent a high priority element of the Strategy.
- Desalination potentially provides substantial yield, but its high effective costs and intensive permitting requirements make it a less attractive drought year supply alternative.

- Other potential regional projects provide tangible, though limited, benefit in reducing dry-year shortfalls given the small average yields in drought years.

Since 2015, BAWSCA has completed a comprehensive update of demand projections and engaged in significant efforts to improve regional reliability and reduce the dry-year water supply shortfall.

- Water Transfers. BAWSCA successfully facilitated two transfers of portions of ISG between BAWSCA agencies in 2017 and 2018. Such transfers benefit all BAWSCA agencies by maximizing use of existing supplies. BAWSCA is currently working on an amendment to the Water Supply Agreement between the SFPUC and BAWSCA agencies to establish a mechanism by which member agencies that have an ISG may participate in expedited transfers of a portion of ISG and a portion of a Minimum Annual Purchase Requirement. In 2019, BAWSCA participated in a pilot water transfer that, while ultimately unsuccessful, surfaced important lessons learned and produced interagency agreements that will serve as a foundation for future transfers. BAWSCA is currently engaged in the Bay Area Regional Reliability Partnership, a partnership among eight Bay Area water utilities (including the SFPUC, Alameda County Water District, BAWSCA, Contra Costa Water District, Santa Clara Valley Water District) to identify opportunities to move water across the region as efficiently as possible, particularly during times of drought and emergencies.
- Regional Projects. Since 2015, BAWSCA has coordinated with local and State agencies on regional projects with potential dry-year water supply benefits for BAWSCA's agencies. These efforts include storage projects, indirect/direct water reuse projects, and studies to evaluate the capacity and potential for various conveyance systems to bring new supplies to the region.

BAWSCA continues to implement the Strategy recommendations in coordination with BAWSCA member agencies. Strategy implementation will be adaptively managed to account for changing conditions and to ensure that the goals of the Strategy are met in an efficient and cost-effective manner. On an annual basis, BAWSCA will reevaluate Strategy recommendations and results in conjunction with development of the BAWSCA's FY 2021-22 Work Plan. In this way, actions can be modified to accommodate changing conditions and new developments.

EMID Actions and Strategies

EMID has been involved directly and through BAWSCA to advocate for an alternative to the Bay-Delta Plan Amendment, including submitting letters and testimony that identify, among other things, the significant impact to local water supply reliability. In addition, EMID submitted letters to BAWSCA and SFPUC enumerating concerns regarding the fact that the SFPUC supply allocations do not meet the LOS Goals included in the Water Supply Agreement and, therefore, SFPUC is not meeting its contractual obligations to the Wholesale Customers.

EMID is committed to improving its supply reliability, including development of recycled water in the future and continued commitment to its water conservation program.

Management Tools and Options

At a regional level, EMID maintains active involvement in the work that SFPUC and BAWSCA are doing with respect to optimizing the use of regional water supplies and pursuing additional supplies.

In addition to supporting SFPUC and BAWSCA, EMID has been working with the City of San Mateo to develop recycled water supplies. If recycled water is made available, the potable water demands will be less than the current projections and therefore the resultant potable supply shortage will likely to be smaller; however, plans to develop recycled water are still be developed and will not be completed in the near future.

EMID has also been implementing, and plans to continue to implement, demand management measures. Further, in response to the anticipated future dry-year shortfalls, EMID has developed a robust WSCP that systematically identifies ways in which EMID can reduce water demands.

Exchanges and Transfers

There are potential transfer and exchange opportunities within and outside of the SFPUC. EMID does not presently anticipate the need for water right transfers during normal year conditions. However, should that condition change in the future, it is possible that EMID could purchase water from another agency or entity either within or outside of the SFPUC.

Within the SFPUC, it is possible to transfer water entitlements or banked water among agencies. The Water Shortage Allocation Plan adopted by all BAWSCA agencies and the SFPUC provides the basis for voluntary transfers of water among BAWSCA agencies during periods when mandatory rationing is in effect on the SFPUC. Some BAWSCA agencies have the capacity to rely on groundwater or other sources during dry years and thus may be willing to transfer at an agreed upon cost a portion of their wholesale water entitlement to other BAWSCA agencies in need of supply above their allocations.

Securing water from willing sellers outside the SFPUC is a more complex process than transfers within the SFPUC RWS, which requires both a contract with the seller agency and approval by the SFPUC. BAWSCA has the authority to plan for and acquire supplemental water supplies and continues to evaluate the feasibility of water transfers as part of its implementation of the Strategy.

WSA Approval Process

Water Code section 10910
(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

Water Code section 10911
(b) The city or county shall include the water assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

As indicated above, this WSA must be included in the Draft EIR being prepared for the Proposed Project. The City of Foster City will need to adopt this WSA as part of the CEQA environmental review for the Proposed Project, including the findings described in the previous section.

References

EKI Environment & Water. *Estero Municipal Improvement District 2020 Urban Water Management Plan Adopted*. July 2021.

HydroScience Engineers. Estero Municipal Improvement District – Water Distribution System Master Plan Study. April 2020.

LSA. *388 Vintage Park Drive Project Initial Study Administrative Draft*. June 2021.

Maddaus Water Management Inc. *Water Capacity Investigation for 388 Vintage Park Road*. October 2020.

ATTACHMENT A
City of Foster City
Water Capacity Investigation for 388 Vintage Park Road
Technical Memorandum

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MADDAUS WATER MANAGEMENT INC.

Technical Memorandum – Final

Date: October 15, 2020

To: Nick Moorhead, SteelWave

From: Michelle Maddaus, Maddaus Water Management Inc.

Title: Water Capacity Investigation for 388 Vintage Park Road, Foster City

This technical memorandum details the Water Capacity Investigation (WCI), or preliminary site water use analysis, that has been prepared by Maddaus Water Management Inc. (MWM) for SteelWave for 388 Vintage Park Road, Foster City (Vintage Park) near the Gilead Sciences campus. The Vintage Park site is currently occupied by a vacant restaurant which has been "dark" for two years. SteelWave is exploring the possibility of developing on this site an approximate 3-story, 95,931-square-foot building, over 1 level of parking, that has a lab-to-office ratio of around 50/50.

Initially, this WCI was conducted because the proposed Vintage Park development project was potentially large enough to require a Water Supply Assessment in a subsequent step. Instead, a preliminary analysis was conducted by MWM of site water use and the City of Foster City existing and projected demands. This analysis determined that the city's water supplies were sufficient to serve existing development, including the proposed site and other planned growth as per adopted Water Supply Assessments. The water supplies analyzed included water supplies in normal and multiple dry years as reported in the most recent published Urban Water Management Plan (UWMP). The demand calculations for the site required the determination of net increase over demand associated with former development that was already included in the 2020 water demand projections developed for Estero Municipal Improvement District (EMID).

For this analysis, MWM researched the unit water use (gallons/day/sq. ft.) for the projected site using city records as well as referencing more than 20 years of experience conducting audits of commercial buildings in Foster City. This knowledge was used to verify and validate the water use factors.

Analysis Inputs and Assumptions

MWM considers the following assumptions to be relevant with regard to the final WCI conclusions listed within this memorandum:

- It is assumed the existing site will be demolished.
- It is assumed the existing site had zero water use; however, the EMID water service area demands do include the restaurant demand, so it would be legitimate to account for this and reduce net additional demand. In a more comprehensive water supply assessment, previous site water demands should be considered for the restaurant that closed in 2018.
- It is assumed the site will be developed between 2020 and 2025.
- It is assumed outdoor water use is potable.
- Lab space is assumed to be ~47,965 sq. ft.
- Office space is assumed to be ~47,965 sq. ft.
- It is assumed that a site water use factor was developed using recent water use from nearby Gilead Sciences buildings having a similar function.

Analysis Outputs

The following table presents the estimated site water use for the proposed 388 Vintage Park 95,931-square-foot lab/office development.

388 Vintage Park	Demand (acre-feet per year)	Notes
Demand for Proposed R&D Space (47,965 sq. ft.)	3.7	Based on R&D water use factor of 25 gallons per year per square foot.[1]
Demand for Proposed Office Space (47,965 sq. ft.)	2.0	Based on large office with cooling tower water use factor of 13 gallons per year per square foot.[2]
Demand from Existing Building to Be Demolished	-	The existing building is planning to be demolished. The site's restaurant has been closed since 2018, so no existing water use is assumed.[3]
Net Project Demand	**5.7**	

[1]Based on 2014-2017 water use data from Gilead Sciences 355 Lakeside Drive. Includes landscape irrigation. Assumes demand use factor of 25 gpy/sq. ft.
[2]Based on 2016-2017 water use data from Gilead Sciences 309 Velocity Way. Includes landscape irrigation. Assumes demand use factor of 13 gpy/sq. ft.
[3]El Torito Mexican Restaurant has been closed since 2018, so no existing water use is assumed. It is planned to be demolished.

Conclusions

- This preliminary analysis has estimated the proposed site's water use to be 5.7 acre-feet per year.
- The City of Foster City's current water supplies in normal and multiple dry years are sufficient to serve existing development, including the proposed site, and other planned growth.

ATTACHMENT B
City of Foster City
Projected Water Demands for 388 Vintage Park Road
Spreadsheet

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Project Title:	388 Vintage Park Drive, Foster City WSA
By:	HydroScience, Engineers
Date:	August 4, 2021
Description:	Existing and Projected Water Demand per Year for Proposed Project

Table 2: Existing and Estimated Annual Water Demand for Proposed Project per Water Master Plan

Land Use Designation	Status	Use Type	Size	Units	Water Use Factor (gpd/acre)	MG/Year	AF/Year
R&D + Office Space[1,2]	Proposed	Commercial	2.2	acres	1,656	1.3	4.1
Historic Usage[3]	Existing	Commercial	2.2	acres		(3.4)	(10.4)
Total Demand (increase per year)						(2.1)	(6.3)

[1]Water use factor is based on the Average Day Demand Future Use Factor from Foster City Master Plan (April 2020) Table ES-1 below.

[2]Water use factor is based on commercial use type (for both R&D and Office space) and includes irrigation demands.

[3]Historic usage is based on the average 2012-2017 metered usage for El Torito Restaurant (including landscape).

Source: Foster City Master Plan, April 2020

Table ES-1: EMID Water Use Factors

Use Type	Units	Current Use Factor		Future Use Factor	
		ADD	MDD	ADD	MDD
Single Family	gpd/DU	223	279	226	282
Two Family	gpd/DU	279	326	283	330
Townhouse	gpd/DU	127	132	128	134
Apartment/Condo	gpd/acre	1,919	2,274	1,945	2,306
Commercial	gpd/acre	1,314	1,531	1,656	1,930
Green Area	gpd/acre	1,892	3,372	1,892	3,372
Semi Public	gpd/acre	713	1,099	898	1,385
School	gpd/acre	890	1,014	902	1,028
Industrial	gpd/acre	711	924	896	1,165

APPENDIX G

SEWER CAPACITY STUDY

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Technical Memorandum

HydroScience
Strategic Water Solutions

Sacramento • Berkeley • San Jose

To: Theresa Wallace, LSA Associates, Inc.

From: Eric Petrel, Project Engineer, HydroScience Engineers

Reviewed By: Angela Singer, Project Manager, HydroScience Engineers

Subject: 388 Vintage Park Development, Sewer Capacity Study

Date: October 22, 2021

This technical Memorandum (TM) is being submitted in partial fulfillment of an agreement between HydroScience Engineers, Inc. (HydroScience) and LSA Associates, Inc. (LSA), which was executed on June 11, 2021. Under the agreement, HydroScience will prepare a water supply assessment and sewer capacity study to support LSA's California Environmental Quality Act (CEQA) documentation efforts for a redevelopment project at 388 Vintage Park Drive in Foster City California (Proposed Project). This TM addresses the Proposed Project's impacts on the existing municipal sanitary sewer infrastructure serving the Proposed Project site.

Proposed Project Description

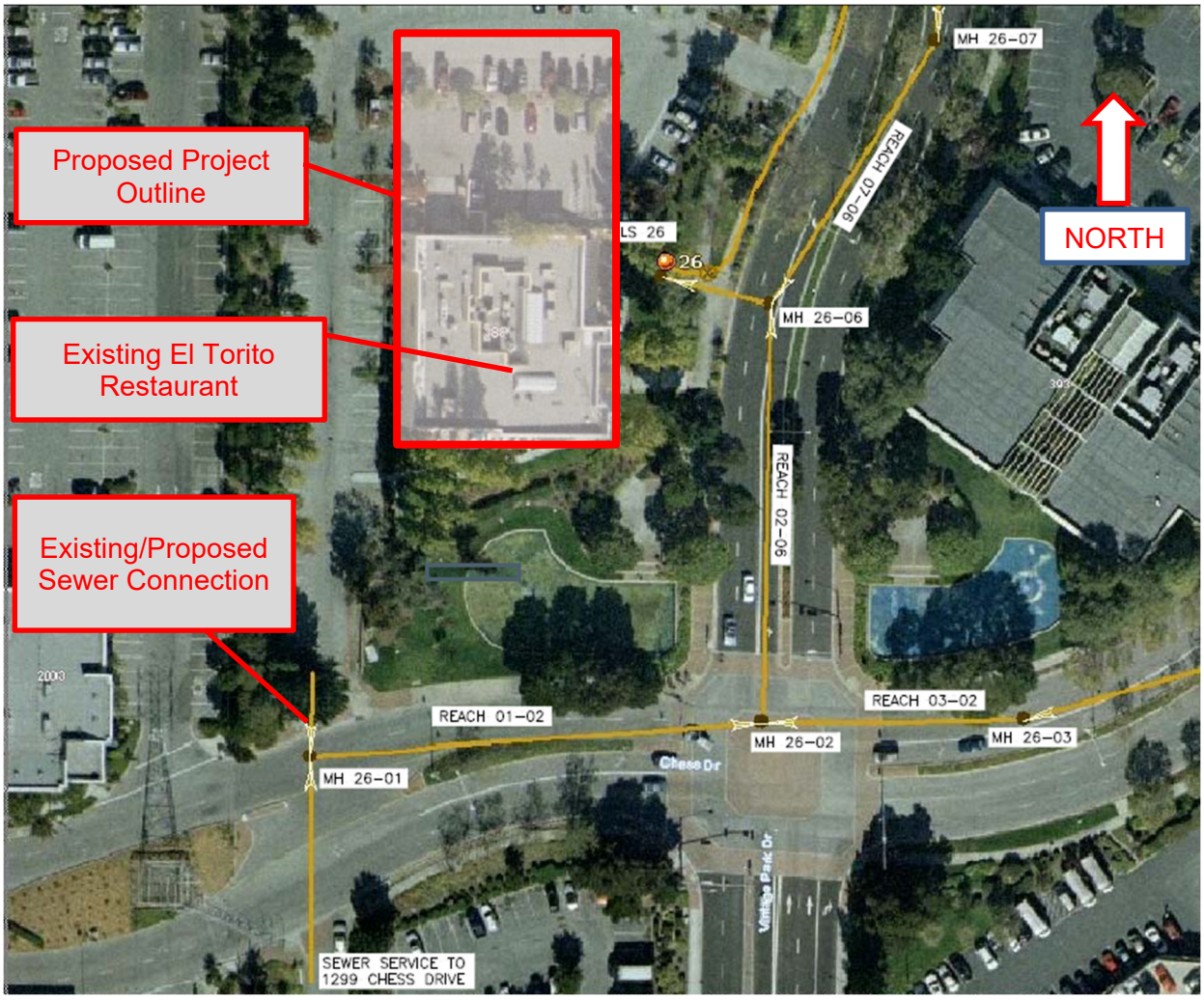
The Proposed Project, if approved, would be constructed at the intersection of Vintage Park Drive and Chess Drive, at the municipal boundary between Foster City and San Mateo. The City of Foster City (City) is reviewing the potential impacts of the Proposed Project. The proposed Project encompasses 2.2 acres and includes redevelopment of an existing site that is currently a single-story 10,120 square foot (sq. ft.) vacant commercial building – the El Torito restaurant, which closed in November 2018. The Proposed Project would result in the demolition of the restaurant building and construction of an approximately 95,931 sq. ft. four-story (68 feet tall) life science building with ground level parking and other infrastructure improvements.

Plans for the Proposed Project were provided by LSA. These plans, entitled "Planning Application for Rezoning (Amendment to General Development Plan), Use Permit, and Use Permit Modification", dated April 16, 2021. Copies of the existing site plan and the conceptual site plan are included in **Attachment A**. These plans show that the proposed building will occupy the area currently occupied by the existing restaurant, and will additionally occupy some of the existing paved parking area. Irrigated landscaping will be installed as a part of the Proposed Project, and will cover roughly the same area as the existing irrigated landscaping, primarily along the east side of the building.

Sewer Setting

The configuration of existing sewer facilities is shown in **Figure 1**, below.

Figure 1: Existing Sewer Facilities Configuration



Gravity sewers in the vicinity of the Proposed Project all flow into Lift Station 26, located between the El Torito restaurant and Vintage Park Drive. The Proposed Project will connect to the existing sewer system at Manhole 26-01, located at the end of the southern driveway in Chess Drive. This is the same manhole to which the restaurant is currently connected.

Historic versus Projected Site Wastewater Flows

El Torito restaurant was shuttered in November 2018, and has not been in operation since that time. The City provided historic water usage records for the restaurant from 2012 to 2017, which indicate that the restaurant consumed water at an average rate of approximately 7,200 gallons per day (gpd), or 5 gallons per minute (gpm) (see **Attachment B**). These records reflect water use within the restaurant building for cooking, dishwashing, restroom use, and building cleaning, and nearly all of the water used would have returned to the sewer system (a separate meter at the site measures water used for landscape irrigation). On this basis, we estimate that the restaurant generated wastewater at an average of 5.0 gpm.

Maddaus Water Management, Inc. prepared a TM, dated October 15, 2020, estimating the water use for the Proposed Project. Their estimate was based on the following key assumptions:

- The Proposed Project footage be split half-and-half between research and development space, and office space.
- Water demand rate for research and development space will be 25 gallons per year (gpy) per square foot (sq. ft.). This is based on historic water use for similar research and development facilities within the City.
- Water demand rate for office space will be 13 gpy/sq. ft. This is also based on historic water use for similar office space within the City.
- Some irrigation water demand is included in the above water demand rates.

The Maddaus TM estimated that the average water use for the Proposed Project will be 5.7 acre feet per year, or an average water use of 3.5 gpm. It is unknown how much if this will be used as irrigation water. Assuming that 100% of the water is returned to the sewer system, then the average wastewater discharge from the Proposed Project will be 3.5 gpm.

Analysis and Opinion

Comparing the historic and projected wastewater flows from the Proposed Project site, the average wastewater discharge is expected to drop from 5.0 gpm to 3.5 gpm, for a reduction of 1.5 gpm. Any adverse difference in the peaking factor (the ratio of peak daily wastewater discharge to average wastewater discharge) between the restaurant and the Proposed Project should be mitigated by the 30% reduction in average wastewater use.

It is our opinion that the Proposed Project will not result in an increase in wastewater discharge from the site.

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ATTACHMENT A

LSA Associates, Inc.
388 Vintage Park Development, Sewer Capacity Study
Existing Site Plan and Conceptual Site Plan

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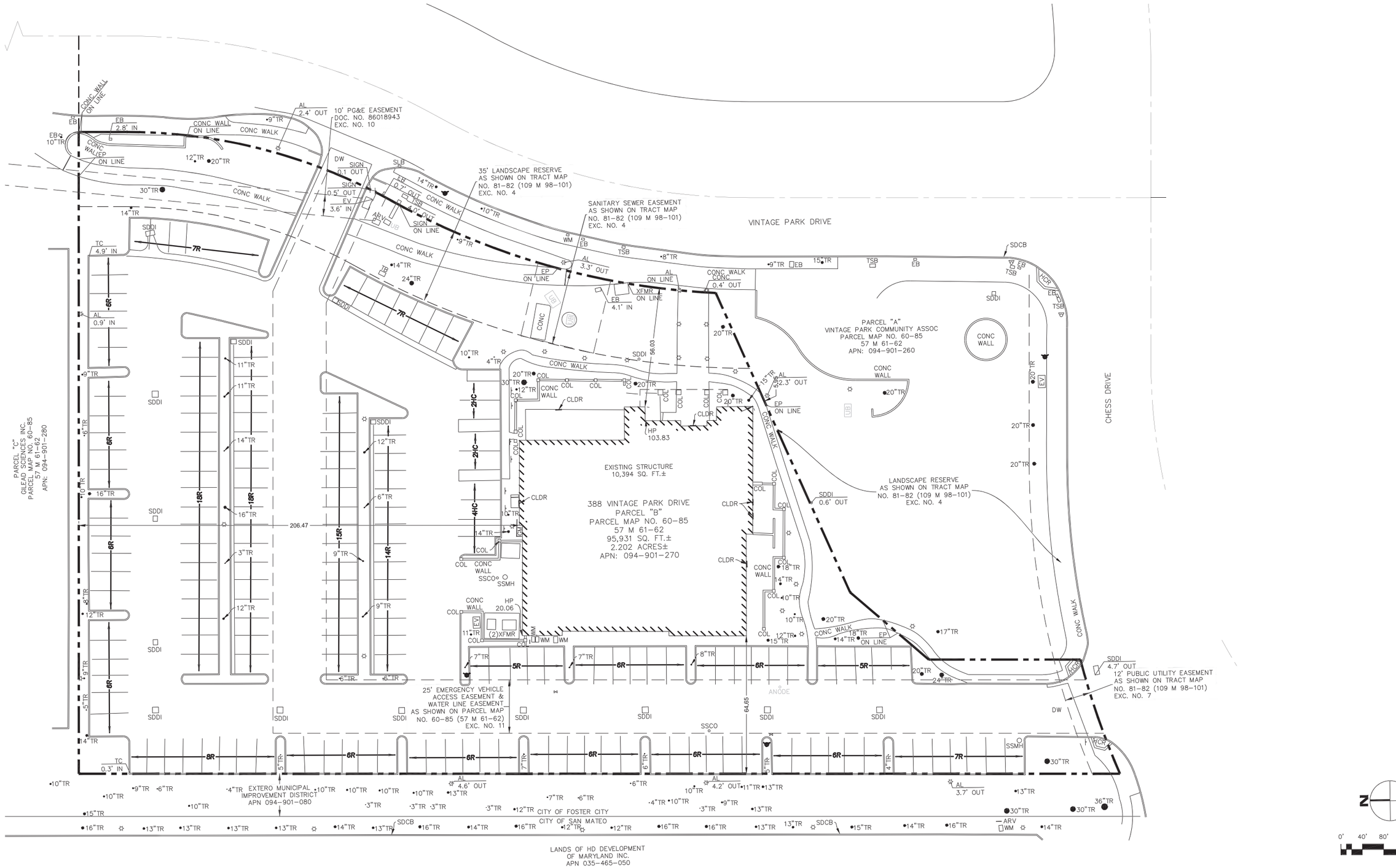

DES ARCHITECTS ENGINEERS

HELIOS REAL ESTATE PARTNERS

STEELWAVE

Existing Site Plan

388 VINTAGE PARK

PLANNING SUBMITTAL 04.16.2021

A2

Project Number: 10244.001

VINTAGE PARK DRIVE

CHESS DRIVE

LOADING SPACE

ENTRY PLAZA

ENTRANCE/LOBBY

STAIRS 1

LANDSCAPE EASEMENT

LONG TERM BIKE PARKING

FIRE LANE

STAIRS 2

STAIRS 3

GENERATOR

TRANSFORMER

ELEC. ROOM

STORAGE

SERVICE ELEVATOR VESTIBULE

WB-40 LOADING DOCK

TRASH

LINE OF BUILDING ABOVE

VPCA
EXISTING LANDSCAPE
TO REMAIN

EMID PROPERTY

1 Site Plan
1"=20'-0"

N

0' 10' 20' 40'

DES ARCHITECTS ENGINEERS

HELIOS REAL ESTATE PARTNERS

STEELWAVE

Conceptual Site Plan

388 VINTAGE PARK
PLANNING SUBMITTAL 04.16.2021

A3

Project Number: 10244.001

ATTACHMENT B
LSA Associates, Inc.
388 Vintage Park Development, Sewer Capacity Study
Historic and Projected Water Use Rates

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Historic Building Water Use
388 Vintage Park Drive, Foster City (El Torito Restaurant)
Provided by City of Foster City
(Does not include irrigation water, which is metered separately)

Location ID	Customer ID	Service Address	Consumption-CCF	From Date	To Date	# of Days	GPD
80982	58081	388 VINTAGE PARK DR	546	07/31/2012	10/03/2012	64	6381
80982	58081	388 VINTAGE PARK DR	432	10/03/2012	11/27/2012	55	5875
80982	58081	388 VINTAGE PARK DR	414	11/27/2012	01/30/2013	64	4839
80982	58081	388 VINTAGE PARK DR	370	01/30/2013	03/27/2013	56	4942
80982	58081	388 VINTAGE PARK DR	738	03/27/2013	06/04/2013	69	8000
80982	58081	388 VINTAGE PARK DR	606	06/04/2013	08/05/2013	62	7311
80982	58081	388 VINTAGE PARK DR	574	08/05/2013	10/05/2013	61	7039
80982	58081	388 VINTAGE PARK DR	606	10/05/2013	12/07/2013	63	7195
80982	58081	388 VINTAGE PARK DR	494	12/07/2013	02/06/2014	61	6058
80982	58081	388 VINTAGE PARK DR	570	02/06/2014	04/08/2014	61	6990
80982	58081	388 VINTAGE PARK DR	686	04/08/2014	06/08/2014	61	8412
80982	58081	388 VINTAGE PARK DR	504	06/08/2014	08/08/2014	61	6180
80982	58081	388 VINTAGE PARK DR	450	08/08/2014	10/08/2014	61	5518
80982	58081	388 VINTAGE PARK DR	440	10/08/2014	12/08/2014	61	5395
80982	58081	388 VINTAGE PARK DR	592	12/08/2014	02/07/2015	61	7259
80982	58081	388 VINTAGE PARK DR	606	02/07/2015	04/09/2015	61	7431
80982	58081	388 VINTAGE PARK DR	600	04/09/2015	06/09/2015	61	7357
80982	58081	388 VINTAGE PARK DR	660	06/09/2015	08/09/2015	61	8093
80982	58081	388 VINTAGE PARK DR	596	08/09/2015	10/09/2015	61	7308
80982	58081	388 VINTAGE PARK DR	548	10/09/2015	12/09/2015	61	6720
80982	58081	388 VINTAGE PARK DR	608	12/09/2015	02/08/2016	61	7455
80982	58081	388 VINTAGE PARK DR	602	02/08/2016	04/09/2016	61	7382
80982	58081	388 VINTAGE PARK DR	686	04/09/2016	06/09/2016	61	8412
80982	58081	388 VINTAGE PARK DR	640	06/09/2016	08/09/2016	61	7848
80982	58081	388 VINTAGE PARK DR	622	08/09/2016	10/09/2016	61	7627
80982	58081	388 VINTAGE PARK DR	648	10/09/2016	12/09/2016	61	7946
80982	58081	388 VINTAGE PARK DR	634	12/09/2016	02/08/2017	61	7774
80982	58081	388 VINTAGE PARK DR	774	02/08/2017	04/10/2017	61	9491
80982	58081	388 VINTAGE PARK DR	758	04/10/2017	06/10/2017	61	9295
					Average (gallons per day)		7156
					Average (gallons per minute)		4.97

MADDAUS WATER MANAGEMENT INC.

Technical Memorandum – Final

Date: October 15, 2020

To: Nick Moorhead, SteelWave

From: Michelle Maddaus, Maddaus Water Management Inc.

Title: Water Capacity Investigation for 388 Vintage Park Road, Foster City

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