



SAN FRANCISCO PLANNING DEPARTMENT

Notice of Preparation of an Environmental Impact Report

Date: October 2, 2019
Case No.: **2017-014833ENV**
Project Title: **469 Stevenson Street**
Zoning: Downtown General Commercial District (C-3-G)
160-F Height and Bulk District
Block/Lot: 3704/045
Lot Size: 28,790 gross square feet (0.66 acre)
Project Sponsor: Victoria Lehman, BUILD
(415) 551-7624
Lead Agency: San Francisco Planning Department
Staff Contact: Jenny Delumo – (415) 575-9146
CPC.469Stevenson@sfgov.org

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

PROJECT DESCRIPTION

The project site is a through lot located at 469 Stevenson Street in the South of Market (SoMa) neighborhood of San Francisco (Assessor's Block 3704, Lot 45). The project site is approximately 28,790 square feet (0.66-acre) and currently developed as a public surface parking lot with 176 parking spaces. The proposed project would demolish the existing surface parking lot and construct a new 27-story mixed-use building approximately 274 feet tall (with an additional 10 feet for rooftop mechanical equipment) and three below grade parking levels, providing parking for 171 spaces. The proposed project would total approximately 567,000¹ gross square feet (gsf) consisting of 462 dwelling units, approximately 4,000 square feet of commercial retail use on the ground floor, and approximately 25,000 square feet of private and common open space. The proposed 462 dwelling units would be provided as rental units and include a mix of approximately 358 one-bedroom, 54 two-bedroom, 42 three-bedroom units, and 8 five-bedroom units. The proposed project would use the Individually Requested State Density Bonus Program² and provide affordable housing units onsite. The below grade parking would also provide 192 class 1³ bicycle spaces and 25 class 2⁴ bicycle parking spaces are proposed along the frontages of Stevenson and Jessie streets. The proposed project would require 55,850 cubic yards of excavation and is anticipated to be constructed on a mat foundation and no pile driving or piers are proposed or required. The attached initial study contains a comprehensive project description, including figures, and a preliminary list of required project approvals.

¹ All numbers are rounded to the nearest thousand or hundred thousand.

² City of San Francisco Planning Department, Individually Requested State Density Bonus Program, Informational and Supplemental Application Packet. http://forms.sfplanning.org/IndividuallyRequestedState_SupplementalApplication.pdf. Accessed September 18, 2019.

³ Class 1 bicycle parking space(s) are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, non-residential occupants, and employees.

⁴ Class 2 bicycle parking space(s) are bicycle racks located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.

SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

The San Francisco Planning Department has prepared an initial study to evaluate the physical environmental effects of the proposed project. The initial study assessed both project-specific and cumulative impacts for all topics required under the California Environmental Quality Act (CEQA) and identified which environmental topic areas may be significantly impacted by the proposed project.

The initial study determined the potential individual and cumulative environmental effects would be less than significant, or reduced to less than significant with mitigation measures for the following topics: land use and planning, population and housing, cultural resources, tribal cultural resources, transportation and circulation, noise, greenhouse gas emissions, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy resources, agriculture and forestry resources, and wildfire. The initial study identified mitigation measures to reduce significant impacts to less than significant levels for the following topics: cultural resources, tribal cultural resources, and noise. In addition, the project meets all requirements of a transit-oriented infill development project under Public Resources Code section 21099 (Senate Bill 743); therefore, aesthetics and parking were not considered in determining if the project has the potential to result in significant environmental effects.

The initial study determined the proposed project could result in potentially significant environmental impacts related to air quality, wind, and shadow. These topics will be discussed in an environmental impact report (EIR), as discussed below. The EIR will also address other topics required by CEQA, including growth-inducing impacts; mitigation measures; significant unavoidable impacts; significant irreversible impacts; any known controversy associated with environmental effects, or alternatives; and issues to be resolved by the decision makers.

Air Quality

The air quality analysis will address consistency of the proposed project with applicable air quality plans, and the potential for the proposed project to result in emissions of criteria air pollutants and other toxic air contaminants that may affect sensitive populations. The air quality analysis will include quantification of both construction-related and operational criteria air pollutant emissions. The analysis will also summarize the results of a health risk assessment prepared to evaluate potential health effects resulting from the project's construction and operational emissions. Cumulative air quality impacts will also be evaluated. The initial study determined that the proposed project would not result in significant impacts related to odors. Therefore, odors will not be addressed in the EIR.

Wind

The wind analysis will evaluate the potential for the proposed project to alter pedestrian-level wind conditions in a manner that would substantially affect public areas. The wind analysis will be conducted for existing plus project conditions and cumulative conditions.

Shadow

The shadow analysis will evaluate the potential for the proposed project to create new shadow that substantially affects the use and enjoyment of publicly accessible open spaces. The shadow analysis will be conducted for existing plus project conditions and cumulative conditions.

ALTERNATIVES

The EIR will include an analysis of the comparative environmental impacts of feasible alternatives to the proposed project as required by State CEQA Guidelines, Section 15126.6. Preliminary alternatives to be considered for this project will include the No Project Alternative, which considers reasonably foreseeable conditions at the project site if the proposed project is not implemented; Reduced Density Alternative, which would not utilize the State Density Bonus program and would construct a 160-foot-tall mixed-use residential building with two basement levels for parking that is consistent with the height and density permitted under the planning code; and Reduced Parking, Tower Only Alternative, which would utilize the State Density Bonus program and include a 287-foot-tall single tower with one basement level for parking. Other alternatives will be evaluated as necessary, depending on the results of the impact analyses of the various environmental topics listed above.

FINDING

This project may have a significant effect on the environment and an EIR is required. This determination is based upon the criteria of the State CEQA Guidelines, sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and for the reasons documented in the initial study for the project, which is attached. The purpose of the EIR will be to provide information about potentially significant physical environmental impacts of the proposed project, identify possible ways to minimize the potentially significant impacts, and describe and analyze possible alternatives to the proposed project. Publication of a notice of preparation, initial study, or EIR does not indicate a decision by the city to approve or disapprove a proposed project. However, before making any such decision, the decision makers must review and consider the information contained in the EIR.

PUBLIC SCOPING PROCESS

Written comments concerning the scope of the EIR will be accepted until 5:00 p.m. on **November 1, 2019**. Written comments should be sent to **Jenny Delumo**, EIR Coordinator, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103, or by email at **CPC.469Stevenson@sfgov.org**.

If you work for a responsible State agency, we need to know the views of your agency regarding the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency.

Members of the public are not required to provide personal identifying information when they communicate with the San Francisco Planning Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

October 2, 2019

Date

Lisa Gibson

Lisa Gibson
Environmental Review Officer

ATTACHMENTS

469 Stevenson Initial Study

Initial Study

469 Stevenson Street Project
Planning Department Case No. 2017-014833ENV

October 2, 2019

Written comments will be accepted until 5:00 p.m. on November 1, 2019 and should be sent to:

Jenny Delumo
Senior Planner, Environmental Planning Division
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103
CPC.469Stevenson@sfgov.org

This page left intentionally blank.

Initial Study table of contents

<u>Section</u>	<u>Page</u>
A. PROJECT DESCRIPTION.....	9
B. PROJECT SETTING.....	59
C. COMPATIBILITY WITH EXISTING ZONING AND PLANS	67
D. SUMMARY OF ENVIRONMENTAL EFFECTS	73
E. EVALUATION OF ENVIRONMENTAL EFFECTS	79
E.1 Land Use And Planning	79
E.2 Population And Housing	81
E.3 Cultural Resources.....	85
E.4 Tribal Cultural Resources	99
E.5 Transportation And Circulation.....	103
E.6 Noise	127
E.7 Air Quality	153
E.8 Greenhouse Gas Emissions.....	155
E.9 Wind.....	159
E.10 Shadow	161
E.11 Recreation.....	163
E.12 Utilities And Service Systems	167
E.13 Public Services	177
E.14 Biological Resources	181
E.15 Geology And Soils.....	185
E.16 Hydrology And Water Quality	195
E.17 Hazards And Hazardous Materials.....	201
E.18 Mineral Resources	207
E.19 Energy Resources	209
E.20 Agriculture And Forestry Resources	213
E.21 Wildfire.....	215
E.22 Mandatory Findings Of Significance.....	217
F. MITIGATION MEASURES	219
G. DETERMINATION	227
H. INITIAL STUDY PREPARERS	229

<u>List of Tables</u>	<u>Page</u>
Table 1: Project Summary	17
Table 2: Cumulative Projects within 0.25-Mile Radius of the Proposed Project	61
Table 3: Contributors and Non-Contributors within Historic/Conservation Districts adjacent to the Project Site.....	86
Table 4: Project Trip Generation	108
Table 5: Freight Loading Demand.....	108
Table 6: Passenger Loading Demand.....	109
Table 7: Existing Vehicle Miles Traveled.....	117
Table 8: Cumulative 2040 Vehicle Miles Traveled	125
Table 9: Summary of Construction Equipment Noise Levels at the Nearest Noise-Sensitive Receptor	135
Table 10: Construction Phases and Equipment	136
Table 11: Calculated Noise Level from Each Construction Phase	137
Table 12: Vibration Source Levels for Construction Equipment.....	141
Table 13: Caltrans Vibration Damage Criteria.....	142
Table 14: Vibration-Sensitive Buildings, Expected Construction Vibration Levels at Nearby Properties, and Caltrans Building Damage Criteria	143
Table 15: Calculated Rooftop Mechanical Equipment Noise Levels at the Project Property Planes.....	146
Table 16: Calculated Rooftop Mechanical Equipment Noise Levels at the Nearest Interior Residential Receptors.....	147
Table 17: Cumulative Traffic Noise Levels	150
Table 18: Recreational Resources within One-Half Mile of Project Site	164
Table 19: Proposed Project Water Demand Relative to total Retail Water Demand (mgd)	172

List of Figures

Page

Figure 1: Project Site Location	11
Figure 2: Proposed Project Site Plan.....	15
Figure 3: Ground Floor Plan	19
Figure 4: Level 2 Plan	21
Figure 5: Level 6 Plan	23
Figure 6: Levels 7 through 26 Plan	25
Figure 7: Level 27 Plan	27
Figure 8: Roof Plan	29
Figure 9: South and West Elevations	31
Figure 10: North and East Elevations.....	33
Figure 11: Ground Floor Landscape Plan.....	37
Figure 12: Level 2 Landscape Plan	39
Figure 13: Level 6 Landscape Plan	41
Figure 14: Level 27 Landscape Plan	43
Figure 15: Parking Garage Plan - Level 1	47
Figure 16: Parking Garage Plan - Level 2	49
Figure 17: Parking Garage Plan - Level 3	51
Figure 18: Cumulative Projects	65
Figure 19: Historic Resources in the Project Vicinity	89
Figure 20: Transportation Study Area	105
Figure 21: Noise- and Vibration-Sensitive Receptors Within 300 feet of Project Site	129

List of Appendices

Appendix A: Noise Technical Memorandum for 469 Stevenson Street

Appendix B: Transportation Analysis

Appendix C: Energy Consumption Calculations

Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
ADA	Americans with Disabilities Act
ADRP	archeological data recovery plan
air district	Bay Area Air Quality Management District
ARPP	archeological resource preservation plan
ATP	archeological testing plan
BART	Bay Area Rapid Transit
bgs	below ground surface
BMPs	best management practices
BTUs	British thermal units
building department	San Francisco Department of Building Inspection
C-3-G	Downtown-General
Caltrans	California Department of Transportation
California Register	California Register of Historical Resources
CEQA	California Environmental Quality Act
dB	decibel
dB(A)	A-weighted decibel
EIR	environmental impact report
ERO	Environmental Review Officer
FARR	Final Archeological Resources Report
FAR	floor area ratio
FTA	Federal Transit Administration
gpd	gallons per day
GHG	greenhouse gas
gsf	ground square feet
health department	San Francisco Department of Public Health
HVAC	heating, ventilation, and air conditioning
kWh	kilowatt-hours
LOS	level of service
Maher Ordinance	San Francisco Health Code article 22A
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MLD	Most Likely Descendant
MRZ	mineral resource zone
MUNI	Municipal Railway
NPDES	National Pollutant Discharge Elimination System

NWIC	Northwest Information Center
OPR	Office of Planning and Research
PCB	polychlorinated biphenyl
PDA	Priority Development Area
PG&E	Pacific Gas and Electric Company
planning department	San Francisco Planning Department
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
RPD	San Francisco Recreation and Parks Department
SB	Senate Bill
SFLOP	San Francisco Local Oversight Program
SFMTA	San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
site assessment	phase 1 environmental site assessment
SoMa	South of Market
TAZ	transportation analysis zones
TCR	tribal cultural resource
TDM	transportation demand management
TDR	transferable development rights
TNCs	Transportation Network Companies
USGS	U.S Geological Survey
UST	underground storage tank
VMT	vehicle-miles-traveled
VOCs	volatile organic compounds

Initial Study

469 Stevenson Street Project

Planning Department Case No. 2017-014833ENV

A. PROJECT DESCRIPTION

A.1. PROJECT LOCATION

The project site is located at 469 Stevenson Street in the South of Market Area (SoMa) neighborhood of San Francisco (Figure 1). As shown in Figure 1, the project site is a through lot with frontages on both Stevenson and Jessie streets and is located mid-block between Fifth and Sixth streets (Assessor's Block 3704, Lot 45). The project site is approximately 28,790 square feet (0.66-acre) and currently used as a public surface parking lot with 176 parking spaces. Access to the project site is available from the existing 24-foot-wide curb cut on Stevenson Street and 12-foot-wide curb cut on Jessie Street. There is no existing vegetation on the project site. However, there are five trees adjacent to the east boundary of the project site on the Clearway Energy property. The topography of the site is generally level with a ground surface elevation of approximately 30 feet above mean sea level.

The project site is located within the C-3-G (Downtown-General) zoning district which allows retail and high-density residential development and a 160-F height and bulk district. This height and bulk designation allow for buildings up to 160 feet in height, and bulk limitations of 110 feet in length and 140 feet along the diagonal for buildings 80 feet in height or taller.

The project site is served by the city's transit network and is located less than one block south of the Powell Street Bay Area Rapid Transit (BART) station and the subsurface San Francisco Municipal Railway (Muni) lines. Additionally, there are several aboveground Muni bus lines that operate within 0.5 mile of the project site, including the 14-Mission, 27-Bryant, 45-Union/Stockton, and 8-Bayshore Express. The closest aboveground Muni stop is located approximately 300 feet north of the project site on Market Street and Sixth Street.

This page left intentionally blank.



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User

469 Stevenson Street Project

Case No. 2017-014833ENV

Figure 1: Project Site Location

This page left intentionally blank.

A.2. PROJECT CHARACTERISTICS

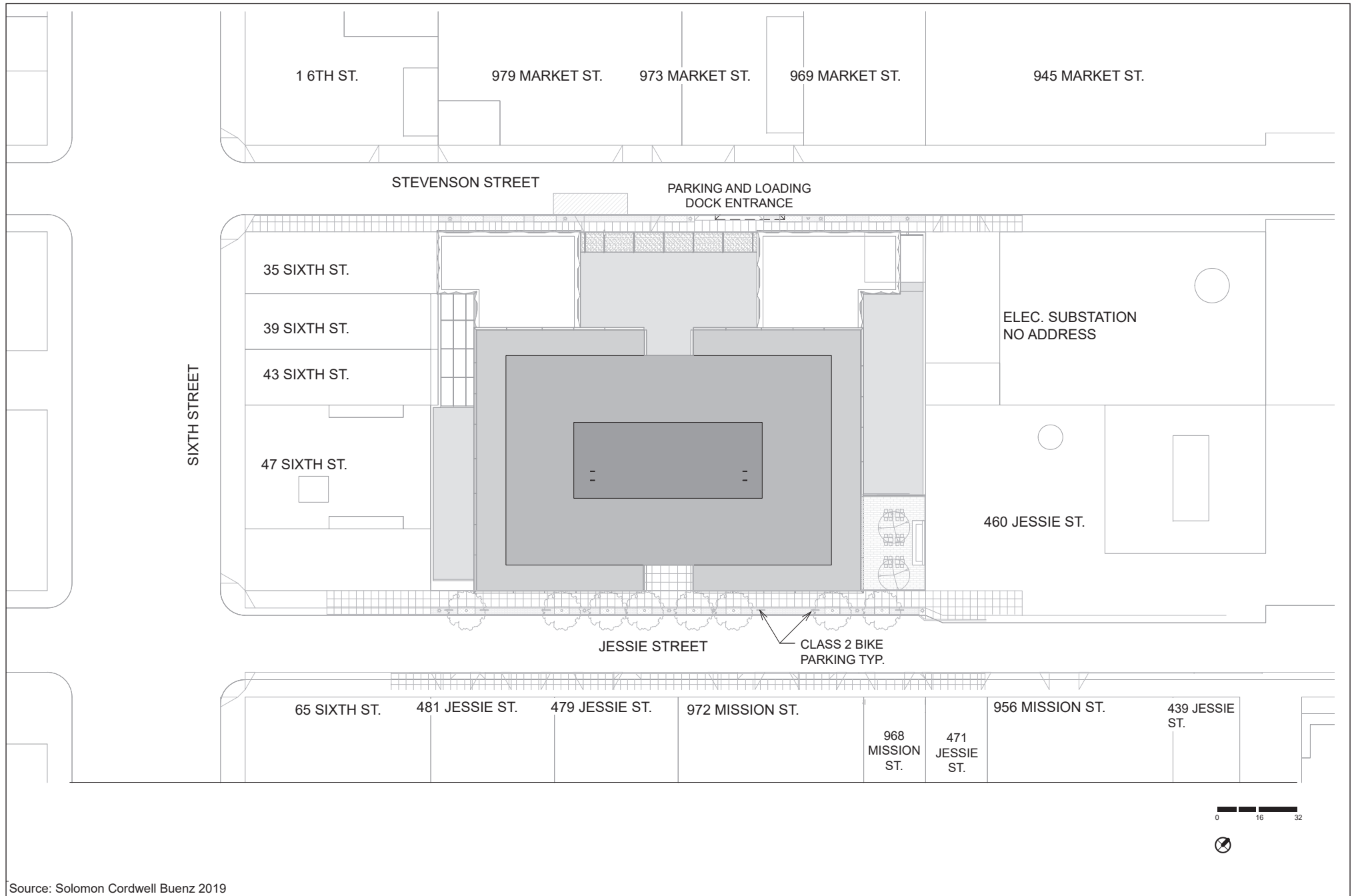
The project proposes to use the Individually Requested State Density Bonus Program⁵ and must provide at least 11 percent of the base⁶ project's residential units as very low affordable dwelling units onsite in order to qualify for a 35 percent increase in density. The project proposes to provide affordable dwelling units at a rate of approximately 19 percent of the base project. The project sponsor will also be requesting waivers from height, bulk, and other physical constraints of the planning code and is reserving its right to use the incentives afforded by providing affordable dwelling units onsite, as allowed by the State Density Bonus program.

The proposed project would replace the existing 176 space surface parking lot with a 27-story (274 foot-tall with an additional 10 feet for rooftop mechanical equipment) mixed-use residential building of approximately 567,000 sf. Figure 2 shows the proposed project site plan. The proposed building would consist of residential and commercial retail uses above a three-level below grade parking garage. The proposed project would provide sidewalk landscaping improvements and open space consisting of solariums, courtyards, and balconies. The proposed project would connect to existing utility lines including sewer, water, electricity, and gas lines. Table 1, Project Summary, lists the characteristics of the individual project components.

⁵ City of San Francisco Planning Department, Individually Requested State Density Bonus Program, Informational and Supplemental Application Packet. http://forms.sfplanning.org/IndividuallyRequestedState_SupplementalApplication.pdf. Accessed September 18, 2019.

⁶ In order to determine how much of a density bonus state law will allow, the density allowed by current controls ("base density" or "base project") must first be calculated. The base density is the maximum gross residential density allowed pursuant to the site's zoning requirements.

This page left intentionally blank.



This page left intentionally blank.

TABLE 1: PROJECT SUMMARY

Project Component	Gross Square Feet ¹
Residential	460,500
Retail	4,000
Vehicle Parking	77,500
Subtotal	542,000
Common Residential Open Space ²	14,000
Private Residential Open Space ³	11,000
Subtotal	25,000
Project Total	567,000
Dwelling Unit Type	Number of Units
One-bedroom	358
Two-bedroom	54
Three-bedroom	42
Five-bedroom	8
Total Dwelling Units	462
Parking Spaces	Number of Spaces
Residential Parking Spaces	171
Retail Parking Spaces	0
Total Parking Spaces	171
Bicycle Parking	Number of Spaces
Bicycle (class 1)	192
Bicycle (class 2)	25
Notes: ¹ All numbers are rounded to the nearest thousand or hundred thousand. ² Common residential open space consists of the lounge solarium, approximately 3,500 square feet; fitness solarium, approximately 7,000 square feet; ground floor courtyard, approximately 1,000 square feet; and rooftop amenity area, approximately 2,500 square feet. Common usable open space as defined in section 135(a) of the planning code pertains to areas jointly used by residents of the project. ³ Private balconies would be provided to 15 dwelling units, each on the 2 nd , 6 th , and 27 th floors.	

RESIDENTIAL COMPONENT

The proposed project would provide approximately 462 dwelling units within 460,500 square feet of residential space. Levels 2 through 5 would contain 20 units consisting of 14 one-bedroom units, 2 two-bedroom units, 2 three-bedroom units, and 2 five-bedroom units. Levels 6 through 26 would contain 18 units consisting of 14 one-bedroom units, 2 two-bedroom units, and 2 three-bedroom units. The 27th level

would include approximately 11,000 square feet of residential space which would consist of 4 two-bedroom units. The project floor plans are depicted in Figure 3 through Figure 8. The building elevations are depicted in Figure 9 and Figure 10.

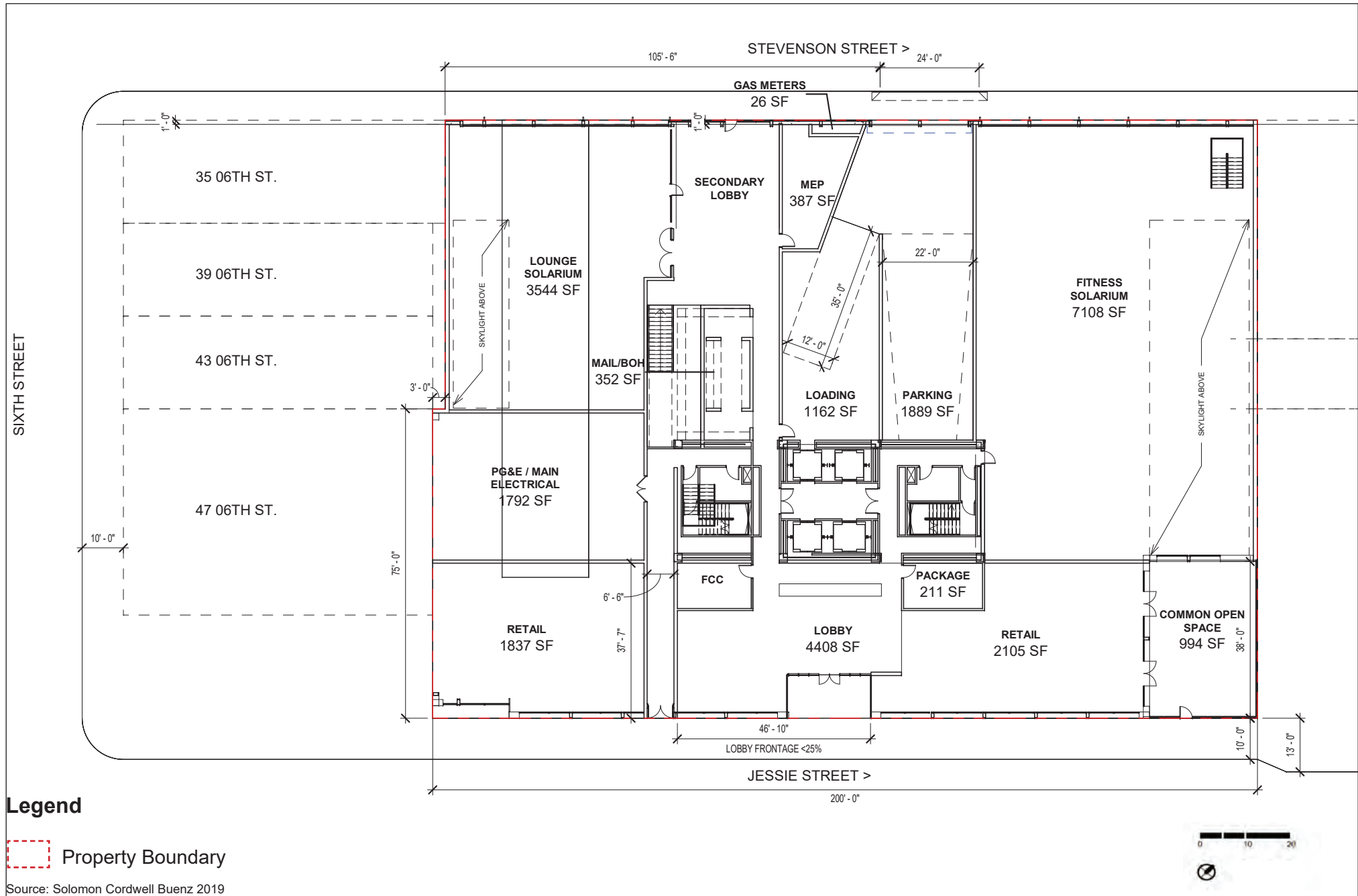
COMMERCIAL RETAIL COMPONENT

The proposed project would include two commercial retail spaces on the ground floor along Jessie Street. The commercial retail spaces would total approximately 4,000 square feet (Figure 3).

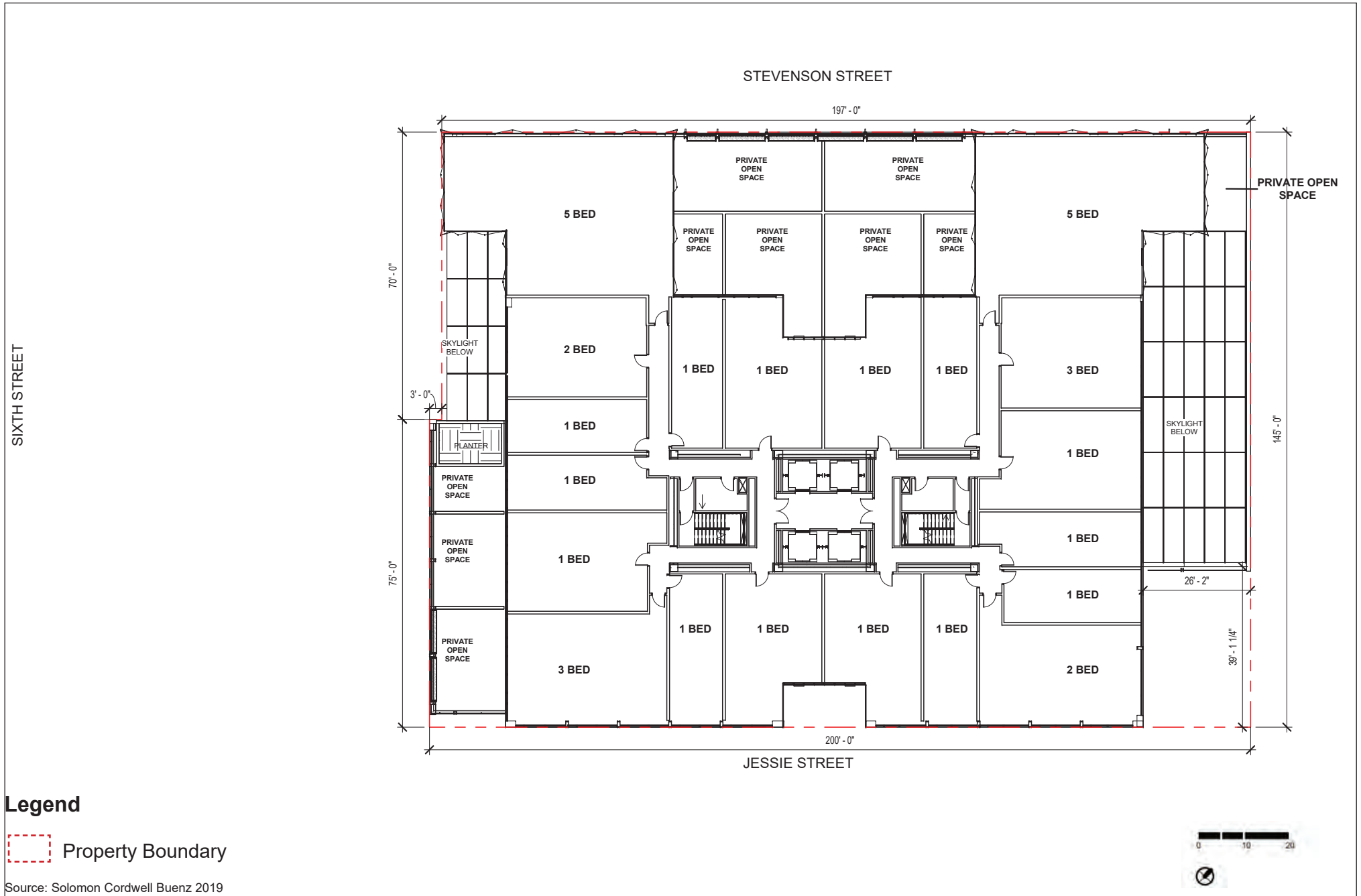
BUILDING FEATURES

The proposed project would incorporate building massing features, including massing articulation, to improve the building's performance with respect to wind safety and comfort to meet the wind hazard requirements of planning code section 148. The proposed project would also include a 12-foot tall glass wind screen along the full perimeter of the private open space areas on the second and sixth levels to further reduce wind speeds and enhance pedestrian safety and comfort.

The proposed heating, ventilation, and air conditioning (HVAC) equipment would be located on the roof and concealed behind a 10-foot tall roof screen (Figure 8). The HVAC system is required to be designed to include a MERV-13 filtration system in accordance with Health Code article 38. The proposed project would include one emergency back-up generator within the building's main electrical room on the ground floor (Figure 3).

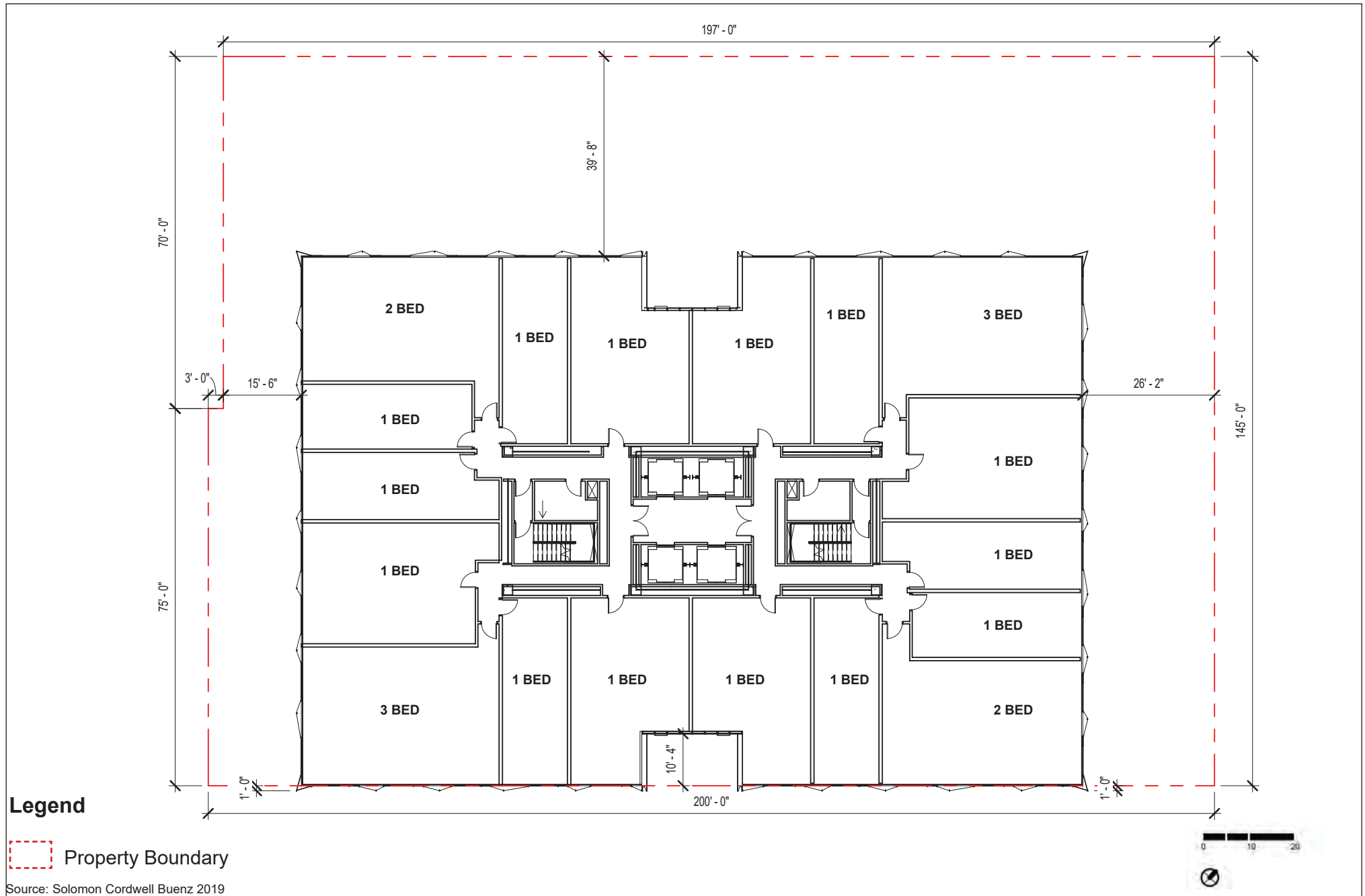


This page left intentionally blank.

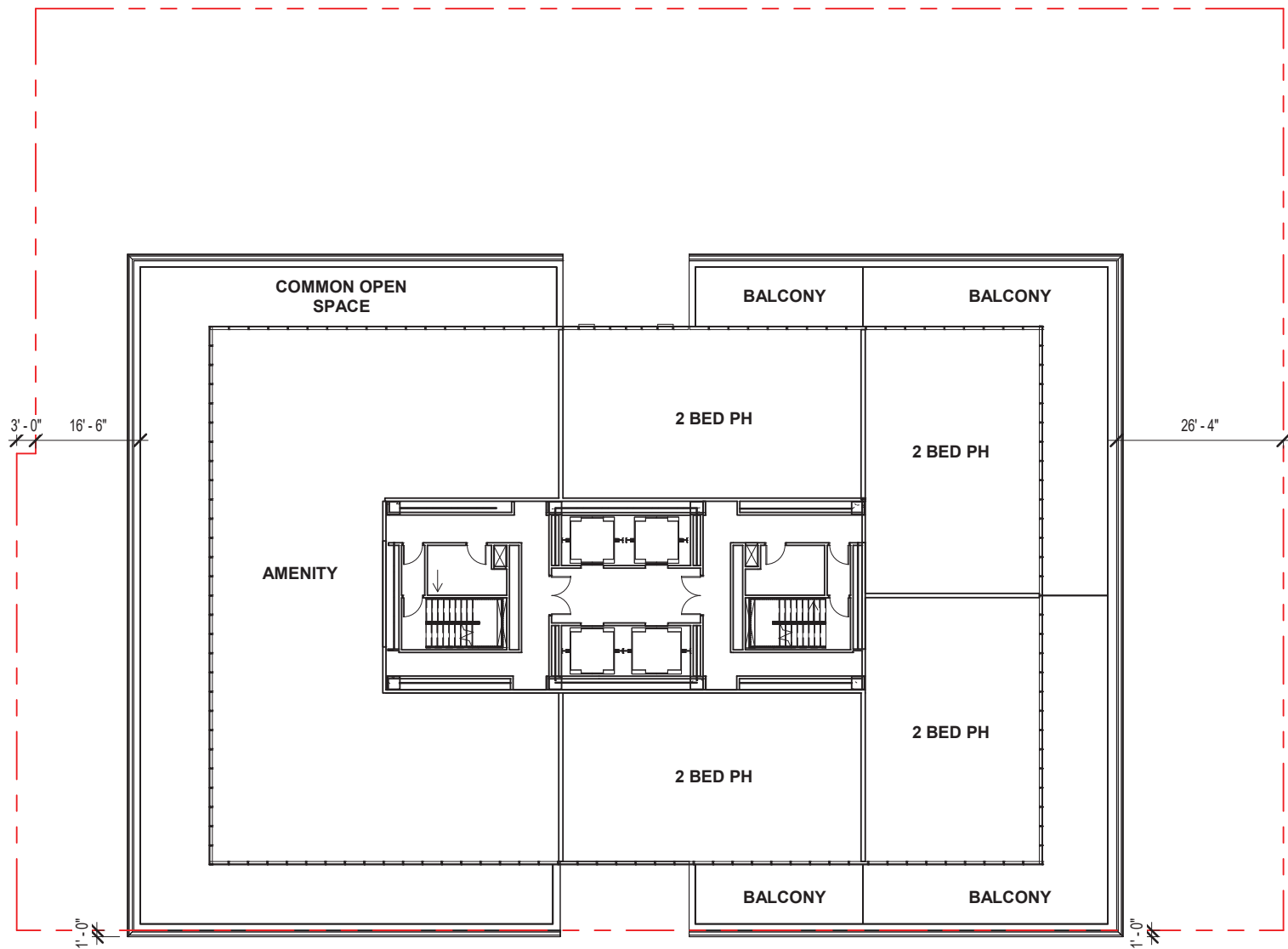


This page left intentionally blank.

This page left intentionally blank.



This page left intentionally blank.



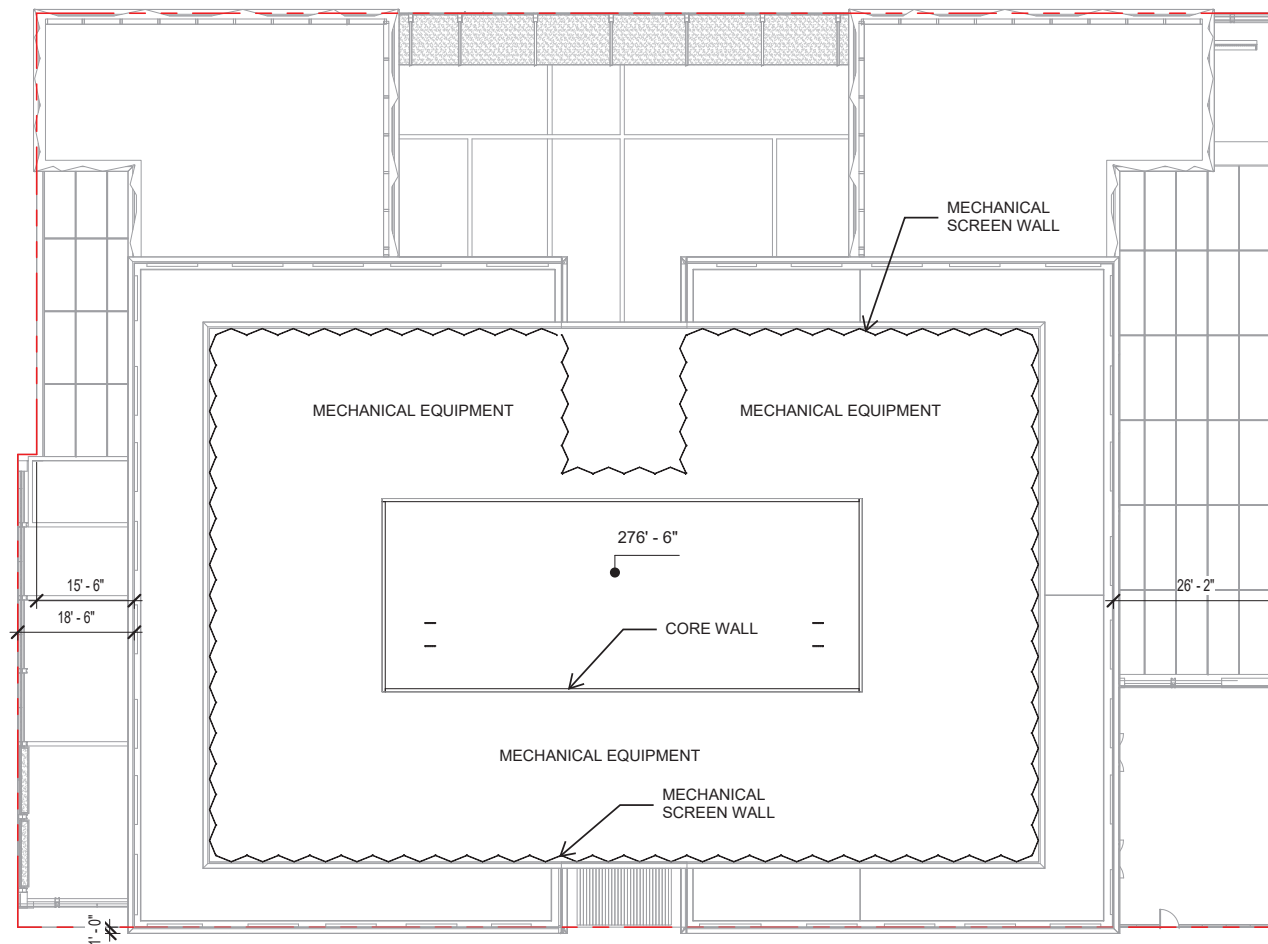
Legend

Property Boundary

Source: Solomon Cordwell Buenz 2019



This page left intentionally blank.



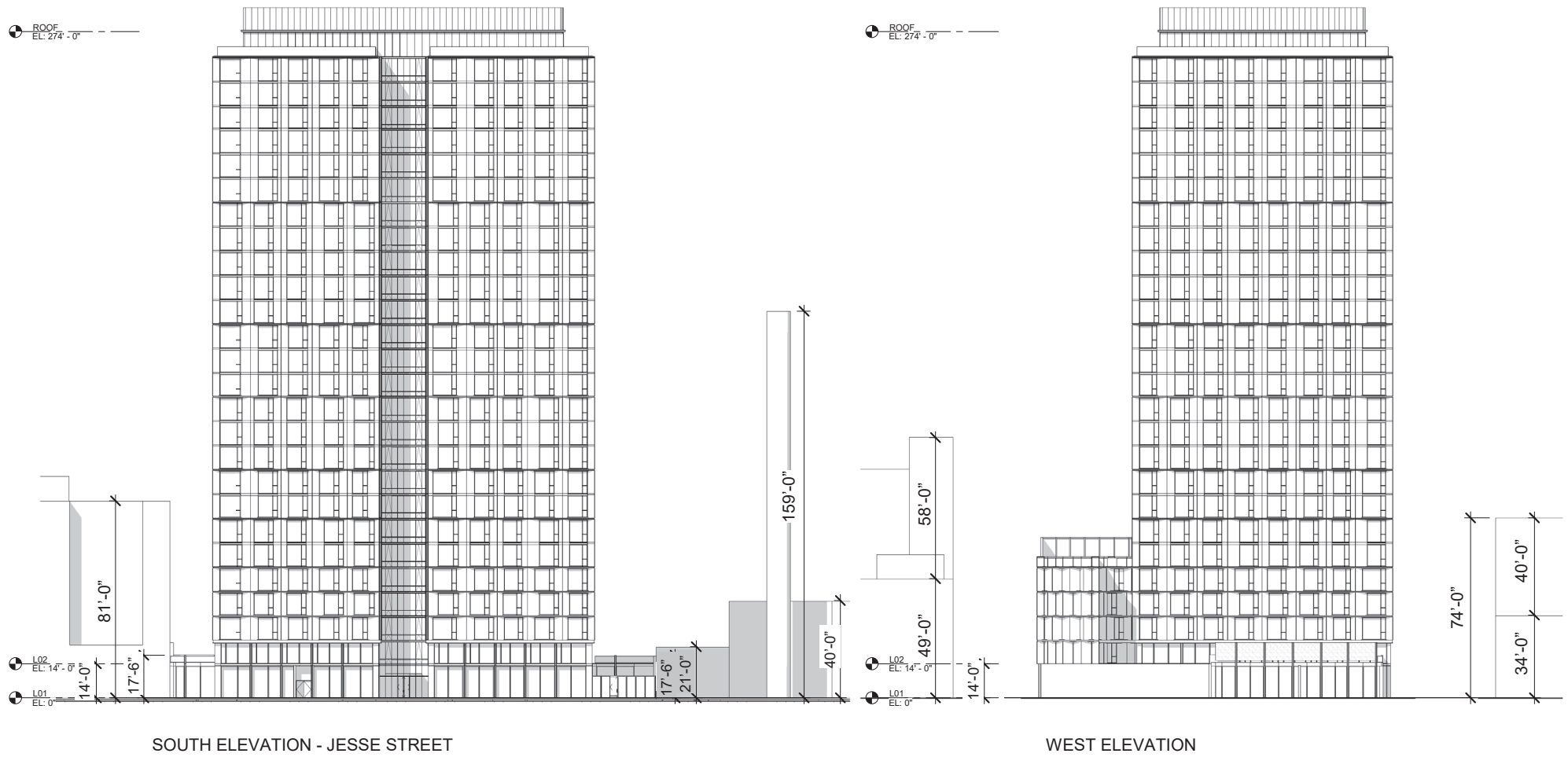
Legend

 Property Boundary

Source: Solomon Cordwell Buenz 2019



This page left intentionally blank.



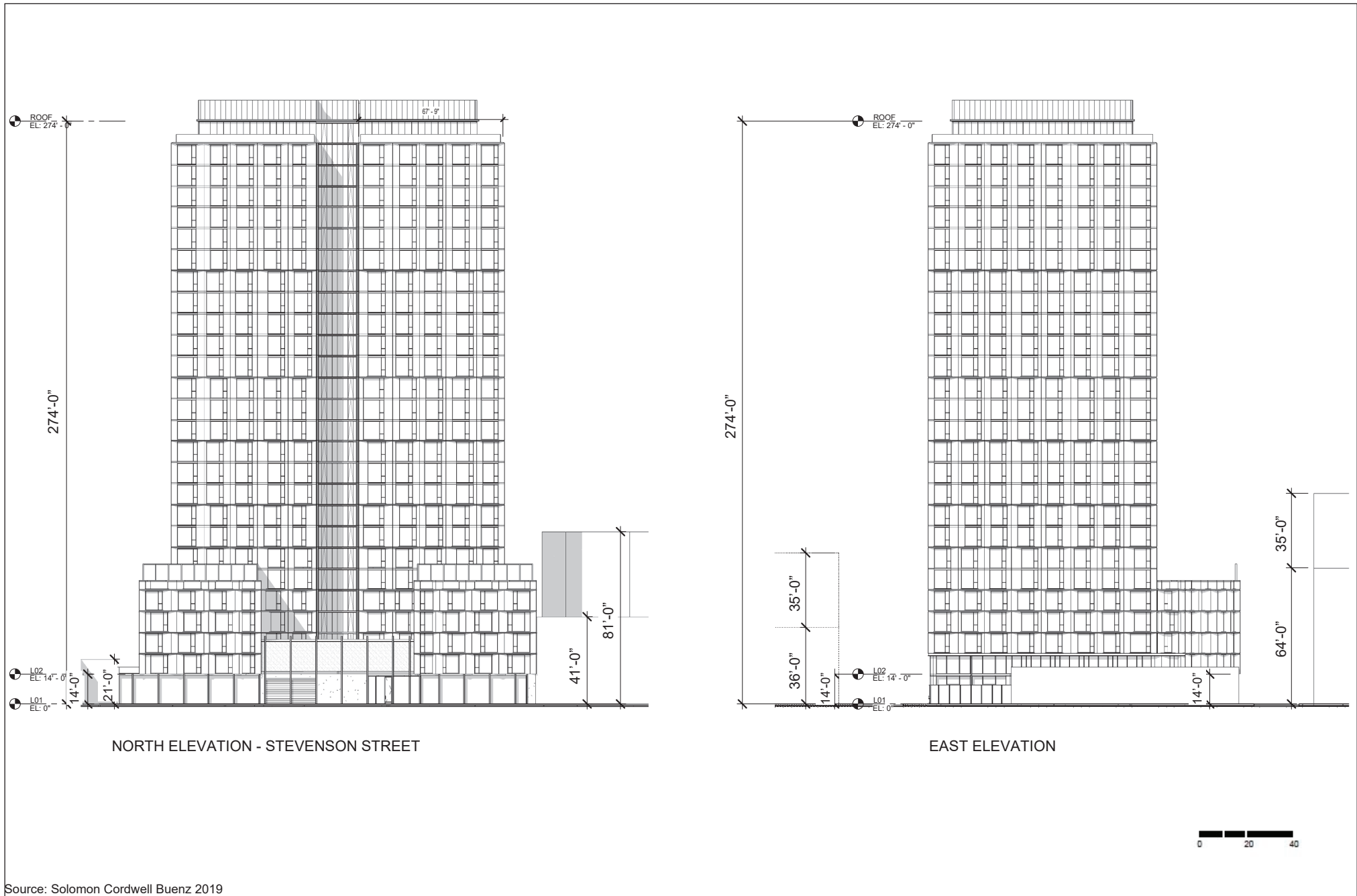
Source: Solomon Cordwell Buenz 2019

469 Stevenson Street Project

Case No. 2017-014833ENV

Figure 9: South and West Elevations

This page left intentionally blank.



This page left intentionally blank.

OPEN SPACE, LANDSCAPING, AND STORMWATER RETENTION

Open Space

The proposed project would provide approximately 14,000 square feet of common open space. Common open space areas would consist of a fitness solarium, approximately 7,000 square feet; a lounge solarium, approximately 3,500 square feet; a courtyard area on the ground floor, approximately 1,000 square feet; and rooftop amenity area, approximately 2,500 square feet. In addition, the proposed project would include approximately 11,000 square feet of private open space. Private open space would consist of balconies for 15 dwelling units. The private balconies would be provided to units on the 2nd, 6th, and 27th floors.

Landscaping

Landscaping at the project site would include approximately eight street tree planting areas along Jessie Street. Due to the narrow sidewalks along Stevenson Street, street trees cannot be planted. Therefore, the proposed project would provide seven vegetated landscape strips along Stevenson Street. Trees would also be planted in the building's outdoor courtyard. Raised planters would be provided in the private balcony areas on the 2nd, 6th, and 27th floors. An 18-foot-tall "green screen" made from plants grown on a vertical trellis would be placed around the private balconies on the second floor. The landscape plans for the proposed project are provided on Figure 11 through Figure 14.

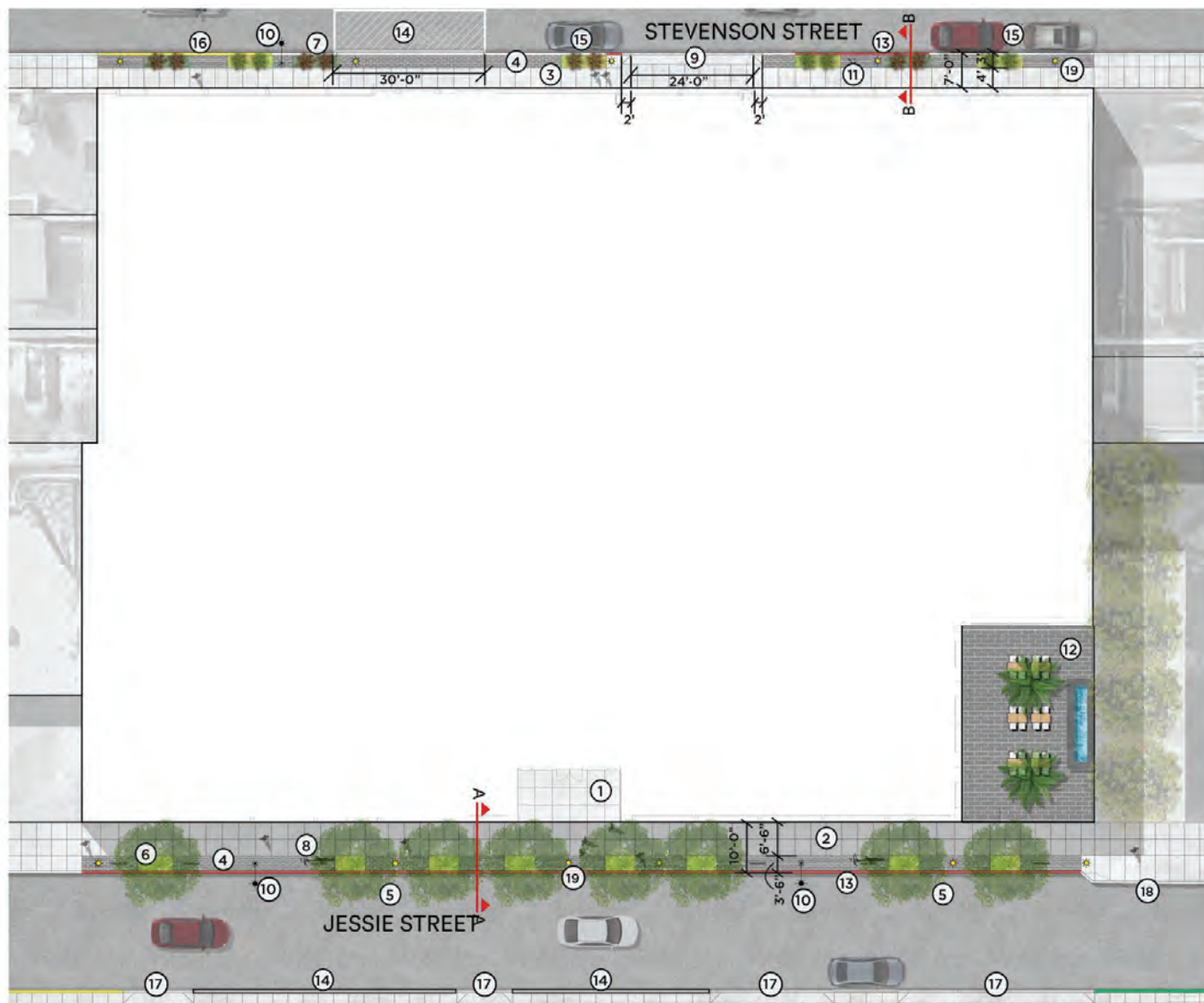
Stormwater Retention

Landscaped areas along Jessie Street and Stevenson Street would retain and treat runoff before entering the city's stormwater system. The proposed project would also incorporate the following low impact design measures to reduce the amount of stormwater entering into the city's combined sewer system: vegetated sidewalk planting areas, roof drains to direct runoff from flow-through-planters, permeable pavement, and a rainwater cistern.

Streetscape and Sidewalk Improvements

The proposed project would provide sidewalk improvements along Stevenson Street and Jessie Street in accordance with the city's Better Streets Plan. These sidewalk improvements would include enhanced sidewalk paving, tree planting areas along Jessie Street, landscaped strips along Stevenson Street, bicycle racks, and relocation of one existing streetlight along Jessie Street to Stevenson Street near the driveway entrance. The proposed project would not alter the existing sidewalk widths on Stevenson Street or Jessie Street. The proposed project would also not result in any new bus stops or changes to existing bus stops in the vicinity of the project site.

This page left intentionally blank.



LEGEND

1. Entry Door to Lobby
2. 10'-0" wide Sidewalk
3. 7'-0" wide Sidewalk
4. Enhanced Paving
5. Street Tree
6. 3'-0" x 7'-0" Street Tree Planting Area
7. 2'-6" x 9'-0" Landscape Strip
8. Class 2 Bike Rack
9. 24' Wide Driveway w/ Wings
10. Existing Street Light
11. Fire Hydrant
12. Outdoor Courtyard for Retail
13. Red Curb
14. Passenger Loading Zone
15. Street Parking
16. Commercial Loading Zone
17. Existing Driveway
18. Existing Curb
19. Pedestrian Lighting Poles

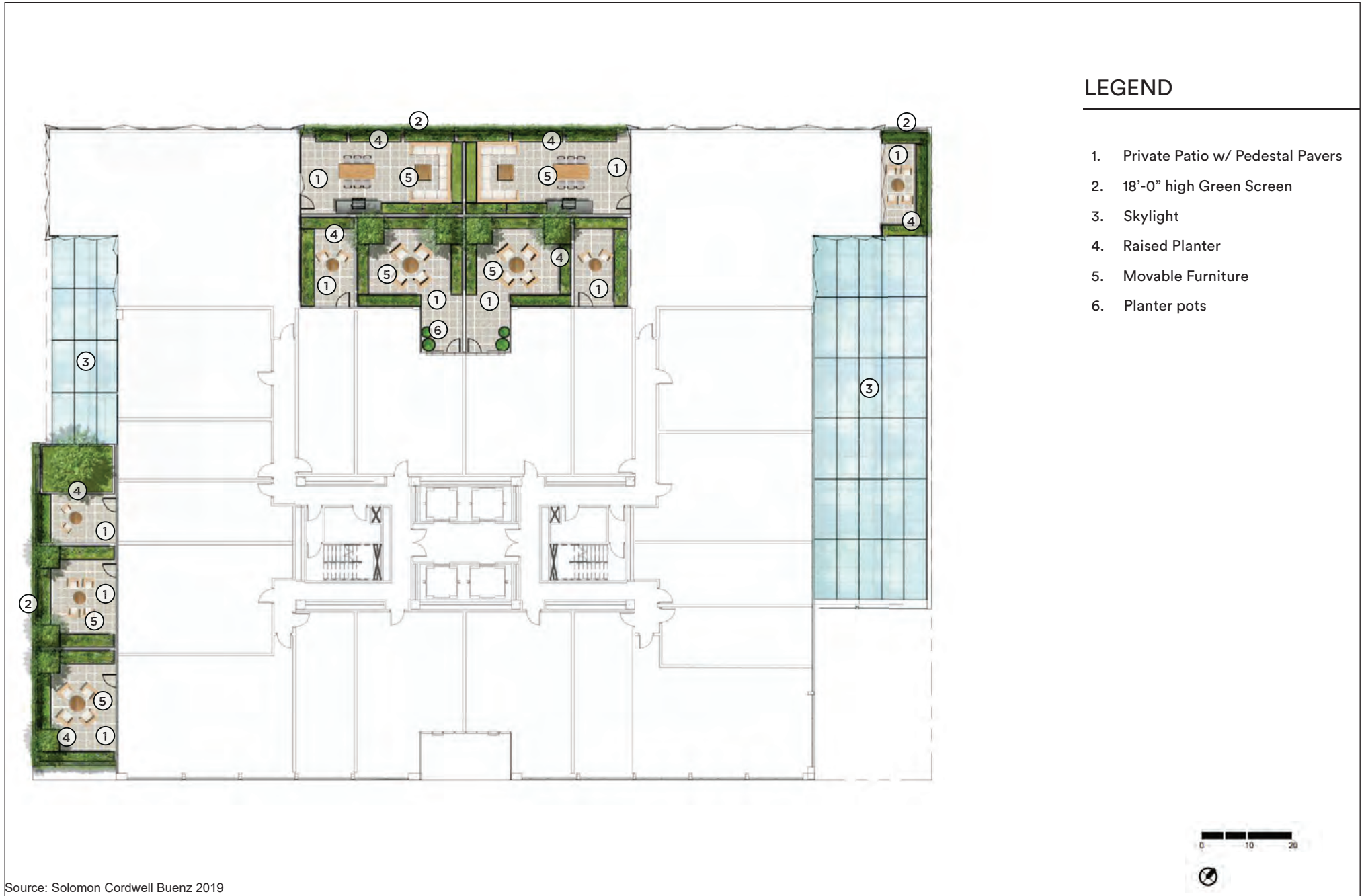
Source: Solomon Cordwell Buenz 2019

469 Stevenson Street Project

Case No. 2017-014833ENV

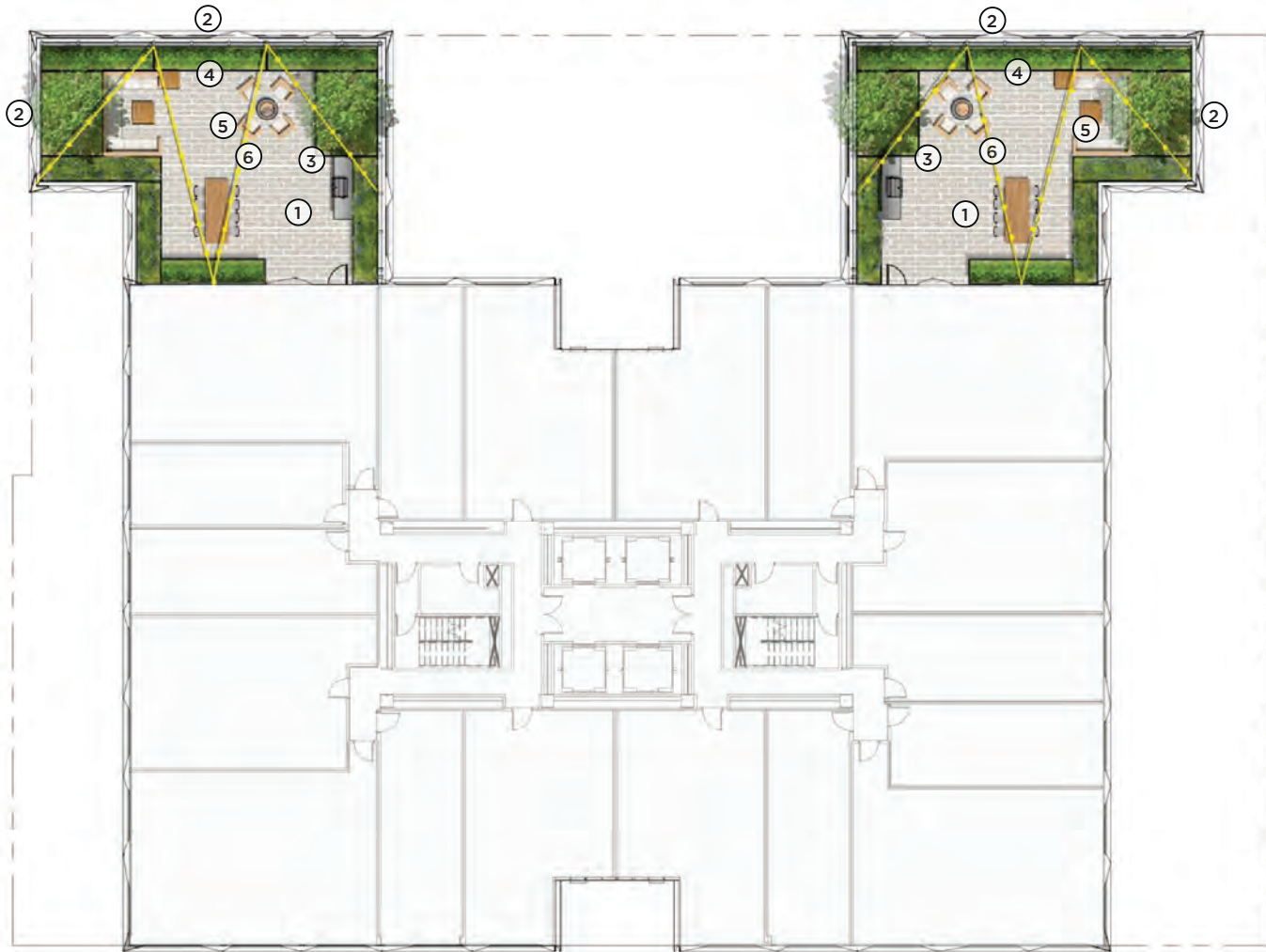
Figure 11: Ground Floor Landscape Plan

This page left intentionally blank.



This page left intentionally blank.

STEVENSON STREET



JESSIE STREET

LEGEND

- 1. Private Patio w/ Pedestal Pavers
- 2. 12'-0" high Glass Wind Screen
- 3. Raised Tree Planter
- 4. Raised Planter
- 5. Movable Furniture
- 6. Festival Lights



Source: Solomon Cordwell Buenz 2019

This page left intentionally blank.

LEGEND

1. Common Open Space w/ Pedestal Pavers
2. Private Balcony w/ Pedestal Pavers
3. Planter Pots
4. Access for window washing at perimeter
5. Movable Furniture
6. Private Screens with Gates



Source: Solomon Cordwell Buenz 2019

This page left intentionally blank.

PARKING, LOADING, AND BICYCLE FACILITIES

Site Access and Circulation

The proposed project would remove the existing 24-foot-wide curb cut on Stevenson Street and 12-foot-wide curb cut on Jessie Street and replace them with a new, single 24-foot wide driveway on Stevenson Street. This driveway would provide vehicle access to the parking garage and the onsite commercial loading area for residents and retail visitors.

Stevenson Street and Jessie Street are each currently eastbound one-way roads and the proposed project would not result in a change of this designation. Vehicles would have to turn on Stevenson Street from Sixth Street and turn right to enter the garage. Vehicles exiting the garage would have to turn right onto Stevenson Street to reach Fifth Street. Each parking garage level would contain a central set of elevators and stairs to access the building's ground floor. The ground floor would contain a separate set of elevators and stairs to access the upper residential floors. Additionally, residents would be able to enter the building at the street level from the main lobby doorway on Jessie Street, or from the second lobby doorway on Stevenson Street.

Vehicle Parking

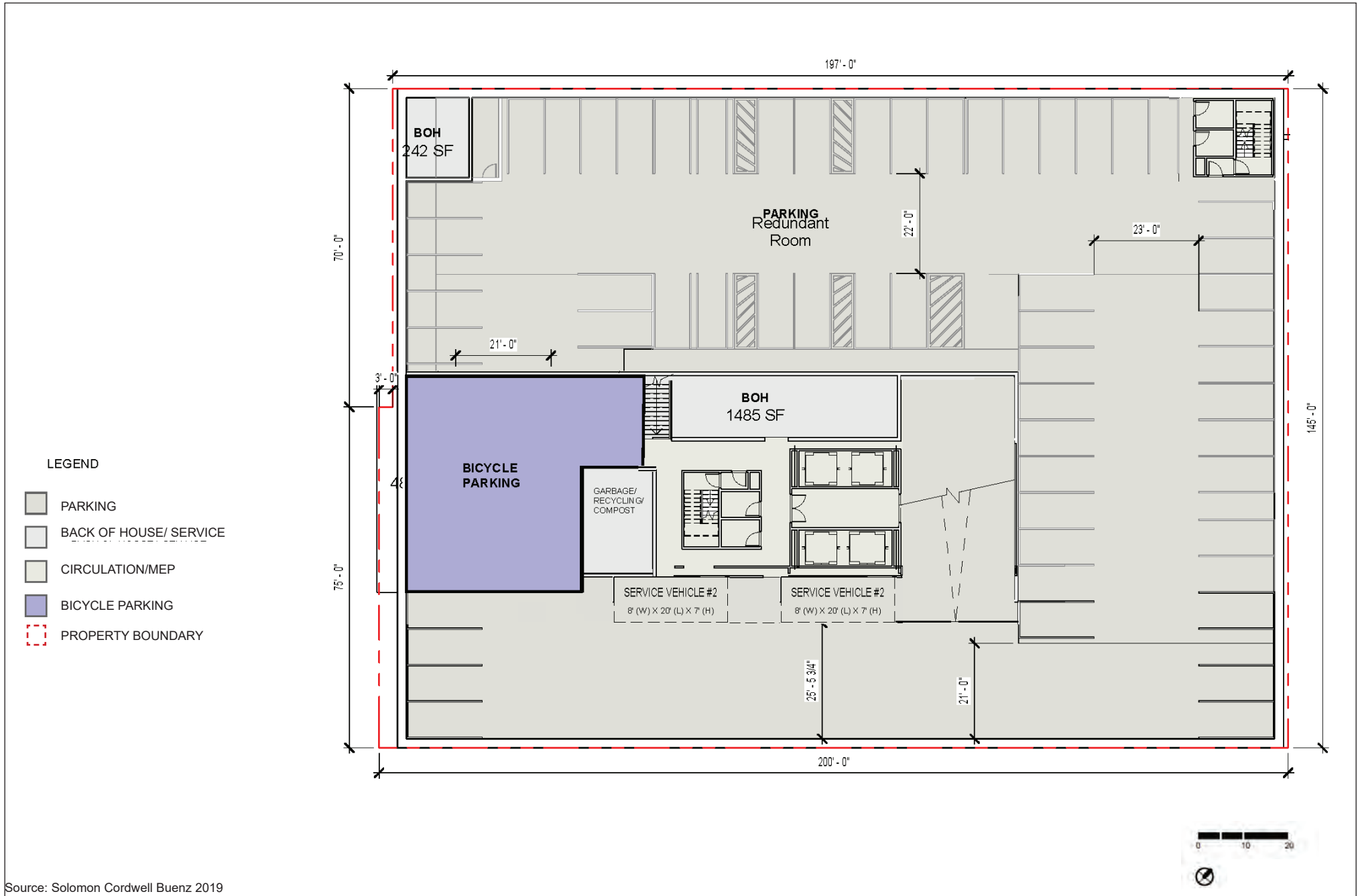
The proposed project would include approximately 77,500 square feet of off-street parking with a total of 171 parking spaces at a proposed parking ratio of 0.5 space per unit. Per sections 155(i) and 166 of the planning code, the proposed project would provide at least 9 accessible parking spaces and 3 car-share spaces. In addition, at least 8 percent of the total proposed parking spaces would be designated for low-emitting, fuel efficient, and carpool/van pool vehicles. The parking garage would be restricted to use by residents and retail employees.

The off-street loading area for freight deliveries would be within the parking garage and accessed by the driveway on Stevenson Street. Two service vehicle parking spaces would also be provided on the first parking level. The site plans for the three-level parking garage are depicted in Figure 15 through Figure 17.

Bicycle Parking

The proposed project would provide 192 class 1 and 25 class 2 bicycle parking spaces. Class 1 parking would be provided in a designated 2,000 square foot room on the first parking garage level and would be equipped with space efficient bicycle racks (Figure 15). Class 2 bicycle parking spaces would consist of bicycle racks installed along the sidewalks on Jessie Street and Stevenson Street.

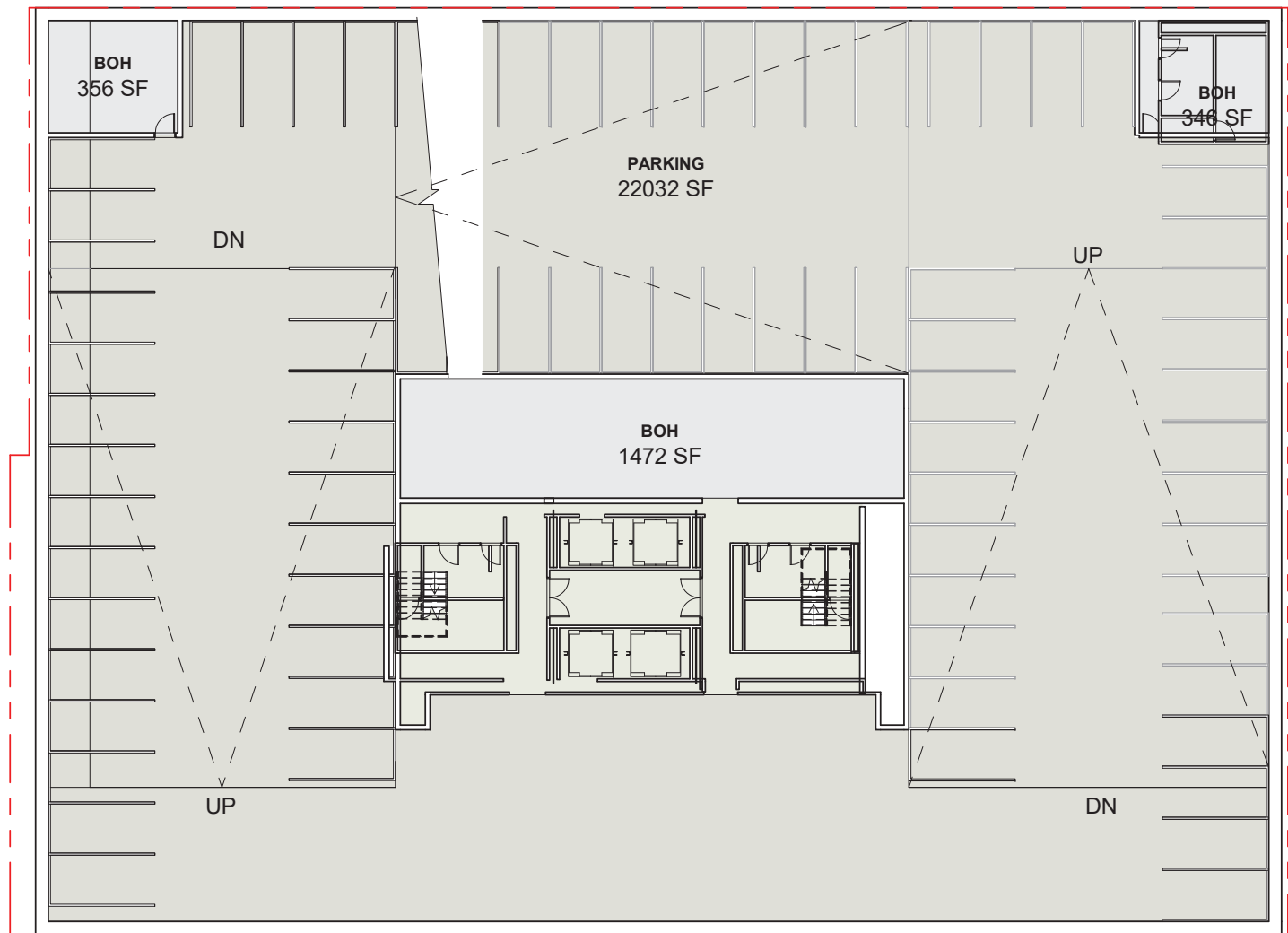
This page left intentionally blank.



Source: Solomon Cordwell Buenz 2019

Figure 15: Parking Garage Plan - Level 1

This page left intentionally blank.



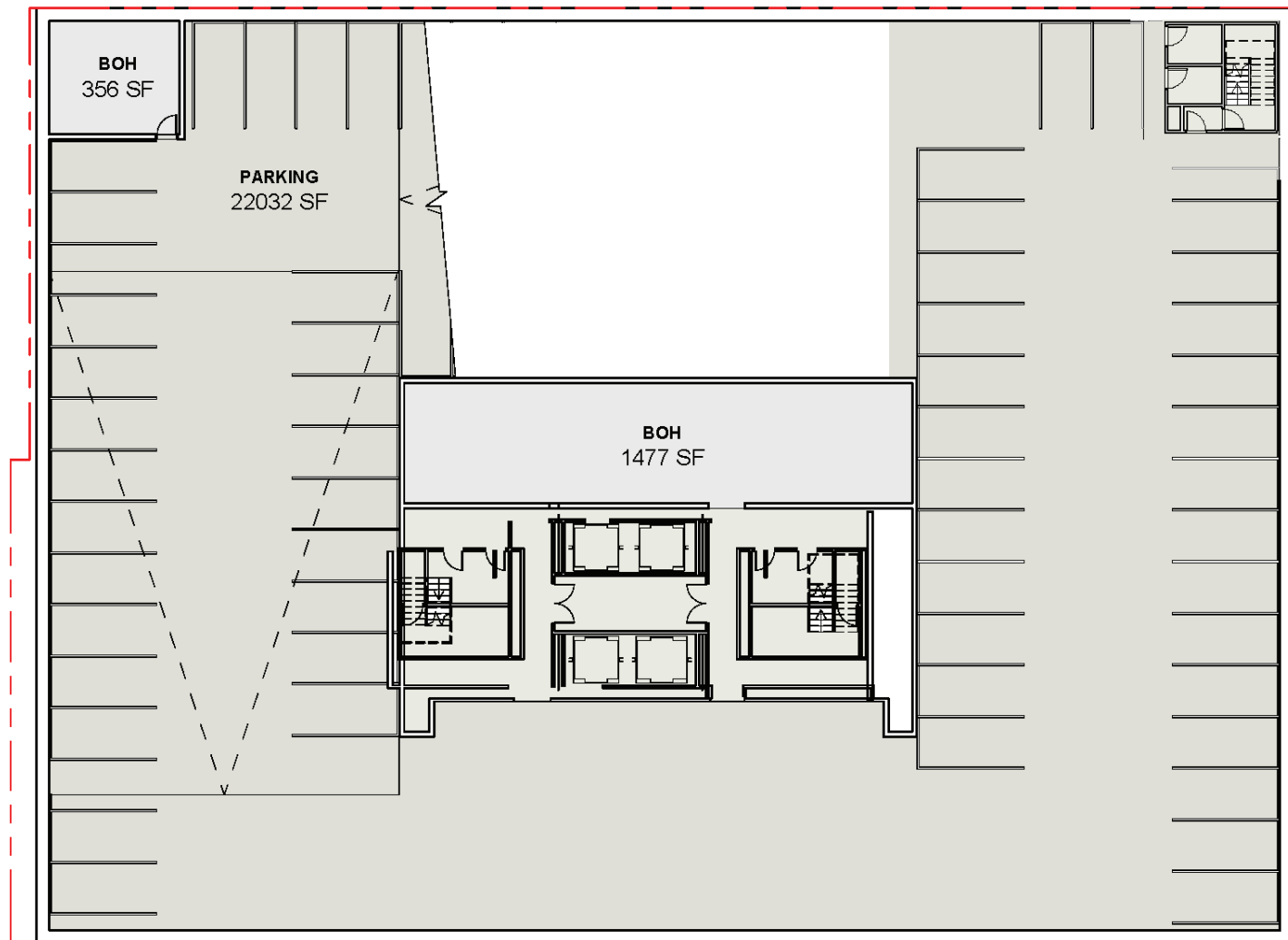
LEGEND

- PARKING
- BACK OF HOUSE/ SERVICE
- CIRCULATION/MEP
- PROPERTY BOUNDARY



Source: Solomon Cordwell Buenz 2019

This page left intentionally blank.



LEGEND

- PARKING
- BACK OF HOUSE/ SERVICE
- CIRCULATION/MEP
- PROPERTY BOUNDARY



Source: Solomon Cordwell Buenz 2019

This page left intentionally blank.

TRANSPORTATION DEMAND MANAGEMENT PLAN

The project sponsor proposes the following transportation demand management (TDM) measures for the proposed project. Additional TDM measures that are proposed are included in the project's TDM application.⁷ The TDM measures are subject to review and approval as part of San Francisco Planning Department (planning department) approvals:

1. ACTIVE-1: Improve Walking Conditions (Option D): The project would provide streetscape improvement elements consistent with the Better Streets Plan.
2. ACTIVE-2: Bicycle Parking (Option B): The project would provide 100 class 1 bicycle spaces plus two class 1 bicycle spaces for every two dwelling units over 100, and two class 2 bicycle spaces for every 20 dwelling units.
3. ACTIVE-4: Bike Share Membership (Location B). The project would offer one complimentary bike share membership to each dwelling unit and/or employee, at least once annually, for the life of the project.
4. ACTIVE-5A: Bicycle Repair Station: The project would provide an indoor bicycle repair station in the below grade parking level that is equipped with tools and supplies necessary to perform basic bicycle maintenance.
5. ACTIVE-5B: Bicycle Maintenance Services. The property owner shall offer bicycle maintenance services to each dwelling unit and/or employee, at least once annually, for 40 years.
6. ACTIVE-6: Fleet of Bicycles: The project would provide five shared bicycles for building residents, visitors, or employees to use.
7. CSHARE-1: Carshare (Option E): The project would provide one car-share membership for each dwelling unit and reserve three parking spaces for car-share services.
8. DELIVERY-1: Delivery Supportive Amenities: The project would facilitate delivery support amenities by providing an area for receipt of deliveries that offers one of the following: (1) clothes lockers for delivery services; (2) temporary storage for package deliveries, laundry deliveries, and other deliveries; or, (3) providing temporary refrigeration for grocery deliveries.
9. FAMILY-1: Family TDM – Amenities (Option A + B): The project would provide family amenities that include onsite storage for family gear, utility carts, and cargo bicycles.
10. FAMILY-3: Family TDM Package. The project would include CSHARE-1 Option E and FAMILY-1, Options A and B.

⁷ San Francisco Planning Department, *Transportation Demand Management Program Application*, submitted August 29, 2018.

11. HOV-1: Contributions or Incentives for Sustainable Transportation (Option A). The project shall offer contributions or incentives to each dwelling unit and employee, at least once annually, for the Life of the Project. The project will provide at least 25 percent (Muni M pass = \$81/month. As such, $\$81 \times 25\% = \$20.25/\text{month/DU}$) contribution or incentive.
12. INFO-1: Multimodal Wayfinding Signage. The project would provide multimodal wayfinding signage that can withstand weather elements in key locations. That is, the signs shall be located externally and/or internally so that the residents, tenants, employees, and visitors are directed to transportation services and infrastructure, including: transit, bike share, car-share, bicycle parking and amenities, showers and lockers, taxi stands, and carpool/shuttle/vanpool pick-up/drop-off locations.
13. INFO-2: Real Time Transportation Information Displays. The project would provide real time transportation information on displays in prominent locations on the project site to highlight sustainable transportation options and support informed trip-making.
14. INFO-3: Tailored Transportation Marketing Services (Option C). The project would provide individualized, tailored marketing and communication campaigns, including incentives to encourage the use of sustainable transportation modes.
15. LU-2: On-site Affordable Housing (Option B). The project would use the Individually Requested State Density Bonus Program and provide onsite affordable housing. At least 19 percent of the dwelling units will be affordable.
16. PKG-1: Unbundle Parking (Location E). The project would lease or sell all parking spaces separately from the rental for the life of the project, so that tenants have the option of renting or buying a parking space at an additional cost, and would, thus, experience a cost savings if they opt not to rent or purchase parking.
17. PKG-4: Parking Supply (Option A). The project would provide off-street private vehicular parking (Accessory Parking) in an amount no greater than the off-street parking rate for the neighborhood (neighborhood parking rate), based on the transportation analysis zone for the project site.

A.3. CONSTRUCTION ACTIVITIES AND SCHEDULE

The proposed project is anticipated to be constructed on a mat foundation and no pile driving or piers are proposed or required. To accommodate the below-grade parking and foundation, the proposed project would entail excavation to a maximum depth of 55 feet. The entire 0.66-acre project site would be permanently disturbed and approximately 55,850 cubic yards of soil would be excavated and hauled offsite for disposal and recycling.

Construction of the proposed project is anticipated to begin in 2020 and be completed by 2023, requiring approximately 36 months of construction. Construction activities would include site

preparation/demolition, excavation and shoring, building construction, architectural coating, and sitework/paving. Construction would generally occur between the hours of 7:00 a.m. and 8:00 p.m. up to seven days a week. However, during the total 36-month construction phase, nighttime construction work may be required on up to five (5) nights and include the following activities:

1. Erection and dismantling of the tower crane;
2. Miscellaneous utility work;
3. Fire alarm testing; and
4. Concrete pour for the mat slab foundation.

This required nighttime work would occur at different times throughout the 36-month construction period and not for five (5) sequential nights. Depending on the construction phase, the number of onsite construction workers would range from approximately 15 to 75 workers per day.

Construction equipment and materials would be staged primarily onsite, although it is expected portions of the sidewalks along Stevenson Street and Jessie Street would be used for staging of materials, requiring temporary partial sidewalk closures. Additionally, both Stevenson Street and Jessie Street would require occasional closures to allow for project construction activities, such as installation of the tower crane, mat foundation construction, or material deliveries. During this time, both streets would not be entirely closed or closed at the same time. It is not expected that construction activities would block Jessie Street for more than one week at a time. Jessie Street could be used for temporary staging of the tower crane; however, that has not been determined. It is anticipated that construction activities would only block 100 feet of Jessie Street for the width of the sidewalk and one travel lane primarily for the tower crane erection and dismantling.

A.4. PROJECT APPROVALS

The following is a preliminary list of the anticipated approvals required for the proposed project; the list is subject to change. These approvals may be reviewed in conjunction with the required environmental review but may not be granted until after the required environmental review is completed.

PLANNING COMMISSION

- Approval of an Individually Requested State Density Bonus project with up to two incentives/concessions and unlimited waivers from the following requirements: height, bulk, floor area ratio, and dwelling unit exposure.
- Adoption of findings under the California Environmental Quality Act (CEQA)
- Approval of a Downtown Project Authorization (planning code section 309)
- Approval of Conditional Use Authorization (planning code section 124[f])
- Approval of a TDM Plan (planning code section 169)

ACTIONS BY OTHER CITY DEPARTMENTS

Department of Building Inspection

- Review and approval of demolition, grading, and building permits

San Francisco Public Works

- If sidewalk(s) are used for construction staging and pedestrian walkways are constructed in the curb lane(s), approval of a street space permit from the Bureau of Street Use and Mapping
- Approval of an encroachment permit or a street improvement permit for streetscape improvements
- Approval of the placement of bicycle racks in the public right-of-way
- Approval of a new curb cut and removal of existing curb cuts

San Francisco Municipal Transportation Agency

- Approval of modifications to color curb designations for on-street parking and loading spaces
- Approval of a special traffic permit from the Sustainable Streets Division if sidewalk(s) are used for construction staging and pedestrian walkways are constructed in the curb lane(s)

San Francisco Public Utilities Commission (SFPUC)

- Review and approval of stormwater design features, including a stormwater control plan, in accordance with city's 2016 Stormwater Management Requirements and Design Guidelines
- Review and approval of the project's landscape and irrigation plans per the Water Efficient Irrigation Ordinance and the SFPUC Rules and Regulations Regarding Water Service to Customers
- Review and approval of groundwater dewatering wells (if they are to be used during construction), per San Francisco Health Code article 12B (Soil Boring and Well Regulation Ordinance) (joint approval with the San Francisco Department of Public Health)

San Francisco Department of Public Health

- Review and approval of a site mitigation plan, in accordance with San Francisco Health Code article 22A (Maher Ordinance)
- Review and approval of a construction dust control plan, in accordance with San Francisco Health Code article 22B (Construction Dust Control Ordinance)
- Review and approval of groundwater dewatering wells (if they are to be used during construction) (joint approval with the SFPUC)

- Approval of an enhanced ventilation proposal in compliance with San Francisco Health Code article 38
- Approval to operate an alternative water source system under San Francisco Health Code article 12C

ACTIONS BY OTHER GOVERNMENT AGENCIES

- Approval of any necessary air quality permits for installation, operation, and testing (e.g., Authority to Construct/Permit to Operate) of individual air pollution sources, such as the proposed backup emergency generator and any necessary boilers (Bay Area Air Quality Management District)

This page left intentionally blank.

B. PROJECT SETTING

B.1 EXISTING SETTING

As described above, the project site is a through lot located at 469 Stevenson Street in the SoMa neighborhood of San Francisco (Assessor's Block 3704, Lot 45). The project site is rectangular in shape and currently developed as a 28,790 square foot surface parking lot with 176 parking spaces.

Land uses in the surrounding area consist of a mix of uses including retail, commercial office, industrial, hotel, and residential uses. The east boundary of the project site is adjacent to Clearway Energy's thermal power station, Station T, which produces space heating, domestic hot water, air conditioning, and industrial process uses. The thermal power station is fully operational and includes six boilers and two gas stacks approximately 160 feet tall. Four buildings are adjacent to the west boundary of the project site consisting of two three-story hotels, a three-story mixed-use building with commercial and hotel uses, and a seven-story mixed-use building with commercial and residential uses. Three buildings are located directly across from the project site on Stevenson Street. These buildings front Market Street and include two seven-story mixed-use buildings with commercial and office uses, and a two-story commercial building. Four buildings are located directly across from the project site on Jessie Street consisting of automotive and office uses ranging from one to five-stories.

The average height of buildings in the immediate area ranges from one to seven stories, approximately 40 to 100 feet in height. The height of buildings generally increases east of the project site along Market Street with the maximum building height allowed up to 400 feet.

The project site is within walking distance to the Downtown, SoMa, and mid-market employment centers. Class 2⁸ and class 3⁹ bicycle facilities currently run along Market Street in both directions. The nearest Bay Area Bike Share Station is less than one block north of the project site at the northwest corner of Market and Fifth streets.

The nearest parks or public open spaces include Mint Plaza, approximately 0.1-mile to the northeast; Father Alfred E. Boeddeker Park, approximately 0.3-mile to the northwest; Gene Friend Recreation Center Park, approximately 0.3-mile to the southeast; Turk-Hyde Mini Park, approximately 0.4-mile to the north; Tenderloin Recreation Center, approximately 0.4-mile to the north; UN Plaza, approximately 0.4-mile to the southwest; Victoria Manalo Draves Park, approximately 0.5-mile to the south; Joseph L. Alioto Performing Arts Piazza, approximately 0.5-mile to the northwest; Union Square, approximately

⁸ Class 2 bicycle facilities are standard bike lanes within a portion of road reserved for the preferential or exclusive use of people biking, indicated by road markings. California Department of Transportation, A Guide to Bikeway Classification, July 2017. http://www.dot.ca.gov/d4/bikeplan/docs/caltrans-d4-bike-plan_bikeway-classification-brochure_072517.pdf. Accessed March 26, 2019.

⁹ Class 3 bicycle facilities are typically wide travel lanes shared by bicyclists and vehicles. They are commonly marked with the standard or greenback sharrows and wayfinding signs to indicate shared use. California Department of Transportation, A Guide to Bikeway Classification, July 2017. http://www.dot.ca.gov/d4/bikeplan/docs/caltrans-d4-bike-plan_bikeway-classification-brochure_072517.pdf. Accessed March 26, 2019.

0.7-mile to the north; and Yerba Buena Gardens open space and recreational facilities, approximately 0.5-mile northeast of the project site.

In addition, five projects within a 0.25-mile radius are currently under construction and therefore are considered part of the existing environmental conditions. These projects include the following:

- *5M Project, 925-927 Mission Street (Case No: 2011.0409E)*: Involves retention and rehabilitation of two buildings on the site, demolition of six existing buildings on the site, and the construction of five new buildings. Buildings would range in height from approximately 50 feet to 400 feet. The total square footage of renovated existing buildings and new construction would include approximately 1.85 million gsf of new and existing uses, comprising 1,132,200 gsf of office uses, 552,800 gsf of residential uses (approximately 748 dwelling units), up to 146,900 gsf of active ground floor retail/office/cultural/ educational uses, and 18,200 gsf of arts/cultural/educational uses. This project is approximately 600 feet southeast of the project site.
- *950-974 Market Street (Case No: 2013.1049E)*: Involves demolition of the existing buildings and parking structure to construct an approximately 406,000 gsf building containing 242 dwelling units, a 232-room hotel, and approximately 16,600 gsf of retail uses, in a 12-story, 120-foot-tall building. This project is approximately 400 feet north of the project site.
- *1066 Market Street (Case No: 2013.1753E)*: The project involves demolition of the existing building and parking lot and construction of a new 12-story, 120-foot-tall, approximately 297,950 gsf residential building with ground floor retail space and two levels of subterranean parking. The mixed-use building would provide approximately 304 dwelling units and 4,540 gsf of ground-floor commercial retail space. This project is approximately 750 feet northwest of the project site.
- *Central Subway Project (Case No: 1996.281E)*: The project involves extension of the Muni Metro T Third Street Line through SoMa, Union Square, and Chinatown. Construction is currently under way and is expected to be complete in 2019. Once the Central Subway is completed, the T Third Line will travel mostly underground from the 4th Street Caltrain Station to Chinatown. Four new stations will be built along the 1.7-mile alignment: 4th and Brannan Station at 4th and Brannan streets, Yerba Buena/Moscone Station at 4th and Folsom streets, Union Square/Market Street Station on Stockton Street at Union Square, and Chinatown Station at Stockton and Washington streets.
- *Sixth Street Pedestrian Safety Project (Case No. 2014.1010E)*: The Sixth Street Pedestrian Safety Project would alter Sixth Street between Market and Howard streets by reducing the number of vehicle lanes on Sixth Street from four lanes to three lanes; widening the sidewalks on both sides of Sixth Street; installing new corner curb bulbouts at all intersections; installing new traffic signals at the intersections of Sixth Street/Stevenson Street and Sixth Street/Natoma Street; installing new crosswalk striping at all alleys crossing Sixth street; and installing new roadway striping and streetscape improvements (e.g., decorative sidewalks, pedestrian lighting).

B.2. CUMULATIVE PROJECT SETTING

CEQA guidelines section 15355 defines cumulative impacts as, “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Cumulative projects within a 0.25-mile radius of the project site are listed below in Table 2 and mapped on Figure 18. These cumulative projects are projects that are currently under review by the planning department or a building permit is on file or has been approved by the San Francisco Department of Building Inspection (building department).

TABLE 2: CUMULATIVE PROJECTS WITHIN 0.25-MILE RADIUS OF THE PROPOSED PROJECT

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)	PDR ¹ (gsf)	Group Housing Rooms	Status
1. 1025 Howard Street (2015-005200ENV)	Demolition of an existing building and construction of a new 8-story hotel with a ground floor retail space and below ground parking.	--	2,445	--	77,510 173 rooms	--	--	Under review
2. 1055 Market Street (2014.0408E)	Demolition of an existing commercial building and construction of a 10-story hotel with a ground floor retail space.	--	2,187	--	71,534 160 rooms	--	--	Approved - not yet under construction
3. 1082 Howard Street (2015-010371ENV)	Demolition of a 2-story retail sales building and construction of a 9-story multi-family residential building.	9	--	--	--	--	--	Under Review
4. 1088 Howard Street (2017-009796ENV)	The proposed project would preserve the existing one story over mezzanine industrial building and construct an approximately 20,402 gsf, 74-foot-tall residential addition.	24	--	--	--	--	--	Under Review
5. 1125 Market Street (2013.0511E)	Construction of a 12-story,	--	5,587	18,737	95,506 181	--	--	Under Review

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)	PDR ¹ (gsf)	Group Housing Rooms	Status
	138,101 sf building containing 181 hotel rooms, 5,587 sf of restaurant/retail, and a 18,737 sf co-working space/office.				rooms			
6. 219 Sixth Street (2017-001590CUA)	Change of use that would result in a net increase of 9 rooms.	--	--	--	--	--	9 guest rooms	Under Review
7. 270 Turk Street (2017-015701PRJ)	Addition of four accessory dwelling units at the basement level of the building.	4	--	--	--	--	--	Under Review
8. 415-417 Tehama Street (2017-016278PRJ)	Construction of one accessory dwelling unit.	1	--	--	--	--	--	Under Review
9. 457-475 Minna Street (2018-016055ENV)	Demolition of an existing 2-story building and proposed merger of four lots and construction of a new 16-story, 270-room group housing building.	--	--	--	--	--	270	Under Review
10. 481-483 Tehama Street (2015-006765 ENV)	Proposed demolition of an existing 2-story building. Construction of a new 4-story residential/ PDR building.	6	--	--	--	1,790	--	Under Review
11. 527 Stevenson Street (2018-012429ENV)	Demolition of an existing 1-story commercial building and new construction of a 7-story commercial building.	--	--	7,062	--	--	--	Under Review
12. 57 Taylor Street aka 111 Turk Street (2015-007525ENV)	Subdivision of parcel containing a mixed-use residential and	--	11,000	--	--	--	77	Under Review

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)	PDR ¹ (gsf)	Group Housing Rooms	Status
	retail building and a surface parking lot. Demolition of a portion of the existing structure (vacant retail space). New construction of a 12-story over basement mixed-use residential group housing with ground floor retail.							
13. 611 Minna Street (2018-009426PRJ)	Addition of two new studio accessory dwelling units at the basement level of an existing 12-unit building.	2	--	--	--	--	--	Under Review
14. 921 Howard Street (2017-000275ENV)	Construction of a new, 18-story, 180-foot-tall mixed-use residential tower and podium.	205	4,999	--	--	--	--	Under Review
15. 984 Folsom Street (2017-013741ENV)	Demolition of a 3-story building and construction of a new 8-story building with a restaurant on the ground floor and group housing on the remaining seven floors.	--	9,115	--	--	--	111	Under Review
16. 996 Mission Street (2015-015253 ENV)	Demolition of 2-story existing residential hotel building. New construction of an 8-story hotel (2 floors residential hotel units, 5 floors tourist hotel) with ground floor retail.	--	--	--	5,645 (105 rooms)	--	--	Under Review
17. Better Market Street	The multi-agency project	--	--	--	--	--	--	Under Review

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)	PDR¹ (gsf)	Group Housing Rooms	Status
(2014.0012E)	would replace and upgrade aging infrastructure – including streetlights, traffic signals, streetcar tracks, overhead wires, and underground utilities.							
¹ PDR – Production, Distribution, Repair Sources: San Francisco Planning Department. 2019. San Francisco Planning Department – Permits in my Neighborhood Map. https://sfplanning.org/resource/permits-my-neighborhood . San Francisco Public Works Department. 2019. Projects Database. https://sfpublicworks.org/projects .								

This page left intentionally blank.

C. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	<i>Applicable</i>	<i>Not Applicable</i>
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This section discusses potential inconsistencies of the proposed project with applicable local plans and policies, as well as potential conflicts with regional plans and policies, as applicable. Inconsistencies with existing plans and policies do not, in and of themselves, indicate a significant physical environmental effect. To the extent that adverse physical environmental impacts may result from such inconsistencies, these impacts are analyzed in this initial study under the specific environmental topic sections below in Section E, Evaluation of Environmental Effects.

The proposed project would intensify land uses on an urban infill site and to the extent that there are conflicts between the proposed project and applicable plans, policies, and regulations, those conflicts would be considered by city decision-makers when they decide whether to approve, modify, or disapprove the proposed project.

C.1. SAN FRANCISCO PLANNING CODE

The planning code, which incorporates by reference the city's zoning maps, governs permitted uses, densities, and the configuration of buildings in San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless either the proposed action conforms to the planning code, or an exception is granted pursuant to provisions of the planning code.

ALLOWABLE USES

The proposed project would be constructed in the C-3-G zoning district and 160-F Height and Bulk District. Pursuant to section 210.2 of the planning code, the C-3-G District "is composed of a variety of uses: retail, offices, hotels, entertainment, clubs and institutions, and high-density residential. Many of these uses have a citywide or regional function, although the intensity of development is lower here than in the downtown core area." The project site is also within the SoMa neighborhood, a rapidly changing neighborhood as its old industrial areas have been redeveloped into new residential uses, convention centers, and office parks.

The proposed project would be consistent with the zoning district as ground floor commercial and residential uses are a permitted use in the C-3-G zoning district. The proposed project includes a request for additional exceptions to permit construction such as waivers from height, bulk, and other physical constraints of the planning code, as allowed under the State Density Bonus

program. These exceptions, including the applicable planning code sections, are described in detail in Section A.4, Project Approvals.

AFFORDABLE HOUSING

The project proposes to use the Individually Requested State Density Bonus program and must provide at least 11 percent of the base¹⁰ project's residential units as very low affordable dwelling units onsite in order to qualify for a 35 percent increase in density. The project proposes to provide 19 percent of the base project's residential units as very low affordable dwelling units onsite. Therefore, the proposed project would comply with the city's Residential Inclusionary Affordable Housing Program requirements (planning code sections 415, et seq.), by including the applicable required number of units per current legislation.

HEIGHT AND BULK CONTROLS

The project site is within the 160-F Height and Bulk District. This height and bulk district allows for buildings up to 160 feet in height. For buildings over 80 feet in height, all portions of structures above the podium height are subject to the bulk restrictions in section 270(a) of the planning code. The proposed project is requesting a 35 percent increase in density and waivers from height and bulk, in exchange for providing affordable dwelling units. As a result, a waiver requesting exceedance of the maximum height and bulk limits would be included in the motions as part of the project's approval. The environmental effects of the project's proposed height and bulk are evaluated in Section E, Evaluation of Environmental Effects.

FLOOR AREA RATIO

Floor area ratio (FAR) is a measure of building intensity based on the ratio between the total floor area to be built on a site and the size of that site. In the C-3-G District, a base 6:1 FAR is allowed under planning code section 124, with a FAR of up to 9:1 with the purchase of transferable development rights (TDR).¹¹ The proposed project would have a FAR of approximately 19:1. The project sponsor is requesting a waiver from the FAR limits under the Individually Requested State Density Bonus program; however the environmental effects of the full project's increase in density are evaluated in Section E, Evaluation of Environmental Effects.

STREET TREES

The project site currently does not contain any trees or landscaping and no street trees are present along the project site's frontages. Planning code section 138.1(c)(1) requires that the project sponsor plant and maintain street trees as set forth in Article 16, sections 805(a) and (d) and 806(d)

¹⁰ In order to determine how much of a density bonus state law will allow, the density allowed by current controls ("base density" or "base project") must first be calculated. The base density is the maximum gross residential density allowed pursuant to the site's zoning requirements.

¹¹ Transferable Development Rights: Units of gross floor area that may be transferred, pursuant to the provisions of section 128 and article 11 of the planning code, from a transfer lot to increase the allowable gross floor area of development on a development lot.

of the public works code. The proposed project would comply with section 138.1(c)(1) by providing approximately eight street trees along Jessie Street and seven vegetated landscape strips along Stevenson Street.

SETBACKS AND OPEN SPACE REQUIREMENTS

The proposed project would not provide setbacks as required by planning code sections 132.1 and 134. The proposed project is requesting a waiver from the rear yard requirements in planning code section 134(g) under the Individually Requested State Density Bonus Program.

The proposed project would provide 11,000 square feet of private open space and 14,000 square feet of common usable open space. Private open space would consist of private balcony spaces for 15 dwelling units. The private balconies would be provided between the 2nd, 6th, and 27th floors. The common usable open space would consist of the ground floor courtyard and solariums, and the rooftop amenity area.

PARKING AND LOADING REQUIREMENTS

According to section 151.1 of the planning code, there is no minimum requirement for off-street parking in the C-3-G district. Maximum off-street parking is limited to 1 parking space for two dwelling units. The proposed project would include a total of 171 parking spaces at a proposed parking ratio of 0.5 space per unit. At least nine of these parking spaces would be ADA-compliant and three would be car-share spaces.

The proposed project would provide one loading space for freight deliveries, adjacent to the parking garage ramp on Stevenson Street. Two service vehicle parking spaces would also be provided on the first parking garage level.

For new residential buildings containing more than 100 dwelling units, planning code section 155.2 requires one secure (class 1) bicycle parking space for each unit for the first 100 units and one secure space for each four units above that, along with one class 2 space for each 20 units. As such, the proposed 462 residential units would require 192 class 1 spaces and 25 class 2 spaces. The proposed project includes 192 class 1 and 25 class 2 bicycle parking facilities. Therefore, the proposed project would comply with the planning code requirements for parking and loading.

C.2 PLANS AND POLICIES

SAN FRANCISCO GENERAL PLAN

In addition to the planning code, the proposed project is subject to the general plan. The general plan provides policies and objectives to guide land use decisions. The general plan contains 10 elements (housing, commerce and industry, recreation and open space, transportation, urban design, environmental protection, community facilities, community safety, arts, and air quality) that set forth goals, policies, and objectives for the physical development of the city.

The general plan also contains several area plans, which provide more specific policy direction for certain neighborhoods. The project site is within the SoMa neighborhood, an area governed by San Francisco's Downtown Area Plan. The Downtown Area Plan aims to create the physical form and

pattern of a livable, compact, and pedestrian-oriented downtown. The area plan contains objectives and policies that address retail space, housing, open space, and urban form.

As discussed below, the proposed project would not substantially conflict with any goals, policies, or objectives of the general plan, including those of the Downtown Area Plan. The compatibility of the proposed project with general plan goals, policies, and objectives that do not relate to physical environmental issues will be considered by decision-makers when deciding whether to approve or disapprove the proposed project. Any potential conflicts identified as part of the process would not alter the physical environmental effects of the proposed project.

URBAN DESIGN ELEMENT

The urban design element of the general plan focuses on the physical character and order of the city and is concerned both with development and preservation. Its goal is to protect public views of open space and water bodies, and to protect and enhance the aesthetic character of San Francisco. The urban design element includes a map titled “Street Areas Important to Urban Design and Views” which identifies particular street segments throughout the city possessing street views of important buildings, streets that define the city form, or streets that extend the effect of public open space. The map identifies Market Street as having “Street View of Important Building” and as one of the “Streets that Define the City Form.” The project site and Market Street are visually disconnected by existing buildings. As such, the proposed project would not impact street views from Market Street and surrounding streets.

The proposed project is an infill development on an existing surface parking lot. The proposed project would construct a new 274-foot tall building. The urban design element includes policy 3.1,¹² policy 3.5,¹³ and policy 3.6¹⁴ which encourages new development to consider its scale in relation to the existing height and bulk of structures in the area. The proposed project would exceed the existing 160-foot height limit as set forth in the planning code and height maps (see Subsection C.1, San Francisco Planning Code) and would be taller than surrounding structures. However, the proposed project is requesting a 35 percent increase in density and waivers from height and bulk would be part of the planning approvals. The proposed project may be potentially inconsistent with policy 3.5 in that the proposed building would be about 88 feet taller than the tallest of the immediately surrounding buildings. However, the proposed heights would be allowed with application of the Individually Requested State Density Bonus Program.

The proposed project would be potentially inconsistent with policy 3.4, which encourages building forms to respect and improve the integrity of open spaces and other public areas. As discussed in Section E.9, Wind, the proposed 274-foot tall building could increase ground-level wind speeds on the project site and on adjacent sidewalks that could exceed pedestrian comfort

¹² Policy 3.1: Promote harmony in the visual relationships and transitions between new and older buildings.

¹³ Policy 3.5: Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development.

¹⁴ Policy 3.6: Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction.

limits and hazard criteria set forth in the planning code. Additionally, as discussed in Section E.10, Shadow, the 274-foot tall building could potentially result in net new shading on nearby parks and open spaces in a manner that could affect the use and enjoyment of these facilities. The project's potential wind and shadow impacts will be evaluated in detail in the EIR.

AIR QUALITY ELEMENT

The general plan includes the 1997 air quality element, which focuses on adherence to regulatory air quality standards and the reduction of air pollution. Implementation of the proposed project would result in emissions during both construction and operation which may be inconsistent with air quality element objective 1, adhere to state and federal air quality standards and regional programs. The project's emissions will be evaluated in detail in the EIR.

PRIORITY POLICIES

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added section 101.1 to the planning code and established eight priority policies. These policies are (1) preservation and enhancement of neighborhood-serving retail uses and future opportunities for resident employment in and ownership of such businesses; (2) conservation and protection of existing housing and neighborhood character to preserve the cultural and economic diversity of neighborhoods; (3) preservation and enhancement of affordable housing (Question E.2.b, Population and Housing, regarding housing supply and displacement); (4) discouragement of commuter automobiles that impede Muni transit service or that overburden streets or neighborhood parking (Question E.5.a., Transportation and Circulation, regarding public transit); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; (6) maximization of earthquake preparedness (Questions E.15.a-d., Geology and Soils); (7) preservation of landmarks and historic buildings; and (Question E.3.a., Cultural Resources); and (8) protection of parks and open space and their access to sunlight and vistas (Questions E.10.a., Shadow, and Question E.11.a., Recreation).

Prior to issuing a permit for any project that requires an initial study under CEQA; prior to issuing a permit for any demolition, conversion, or change of use; and prior to taking any action that requires a finding of consistency with the San Francisco General Plan, the city is required to find that the proposed project or legislation is consistent with the priority policies. As noted above, the consistency of the proposed project with the environmental topics associated with the priority policies is discussed under the relevant topics in Section E, Evaluation of Environmental Effects, of this initial study.

REGIONAL PLANS AND POLICIES

The five principal regional planning agencies and their overarching plans and policies to guide planning in the nine-county bay area include the Plan Bay Area 2040, Bay Area Air Quality Management District's (air district) 2017 Bay Area Clean Air Plan, Metropolitan Transportation Commission's Regional Transportation Plan – Transportation 2035, San Francisco Regional Water Quality Control Board's San Francisco Basin Plan, and the San Francisco Bay Conservation and Development Commission's San Francisco Bay Delta Plan. Due to the infill nature of the proposed project, no anticipated inconsistencies with regional plans would occur.

This page left intentionally blank.

D. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

<input type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hydrology/Water Quality
<input type="checkbox"/> Population and Housing	<input checked="" type="checkbox"/> Wind	<input type="checkbox"/> Hazards & Hazardous Materials
<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Shadow	<input type="checkbox"/> Mineral Resources
<input checked="" type="checkbox"/> Tribal Cultural Resources	<input type="checkbox"/> Recreation	<input type="checkbox"/> Energy
<input type="checkbox"/> Transportation and Circulation	<input type="checkbox"/> Utilities /Service Systems	<input type="checkbox"/> Agriculture and Forestry Resources
<input checked="" type="checkbox"/> Noise	<input type="checkbox"/> Public Services	<input type="checkbox"/> Wildfire
<input checked="" type="checkbox"/> Air Quality	<input type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Mandatory Findings of Significance
<input type="checkbox"/> Geology/Soils		

D.1 APPROACH TO ENVIRONMENTAL REVIEW

This initial study examines the proposed project to identify potential effects on the environment. For each item on the initial study checklist, the evaluation has considered the impacts of the proposed project both individually and cumulatively, except for regional air quality and greenhouse gases, which are considered on a cumulative basis due to the cumulative nature of the impact.

All items on the initial study checklist that have been checked “Less-than-Significant Impact with Mitigation Incorporated,” “Less-than-Significant Impact,” “No Impact,” or “Not Applicable,” indicate that, upon evaluation, staff has determined that the proposed project could not have a significant adverse environmental effect relating to that issue. A discussion is included for those issues checked “Less-than-Significant Impact with Mitigation Incorporated” and “Less-than-Significant Impact” and for most items checked “No Impact” or “Not Applicable.” For all of the items checked “No Impact” or “Not Applicable” without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff experience, and expertise on similar projects, and/or standard reference material available within the planning department, such as the department’s Transportation Impact Analysis Guidelines for Environmental Review, or the California Natural Diversity Database and maps, published by the California Department of Fish and Wildlife.

EFFECTS FOUND TO BE POTENTIALLY SIGNIFICANT

The designation of topics as “Potentially Significant” in the initial study means that the EIR will consider the topic in greater depth and determine whether the impact would be significant. Based

on this initial study, topics for which there are project-specific effects that have been determined to be potentially significant are related to air quality, wind, and shadow. These topics will be evaluated in the EIR prepared for the proposed project.

EFFECTS FOUND NOT TO BE SIGNIFICANT OR NOT SIGNIFICANT WITH IDENTIFIED MITIGATION MEASURES

The following potential individual and cumulative environmental effects were determined to be less than significant, would be reduced to less than significant with mitigation measures identified in this initial study and agreed upon by the project sponsor, or would result in no physical environmental impact.

- Land Use and Planning
- Population and Housing
- Cultural Resources
- Tribal Cultural Resources
- Transportation and Circulation
- Noise
- Greenhouse Gas Emissions
- Recreation
- Utilities and Service Systems
- Public Services
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Mineral Resources
- Energy Resources
- Agricultural and Forest Resources
- Wildfire

D.2 SENATE BILL 743 AND PUBLIC RESOURCES CODE SECTION 21099

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014.¹⁵ SB 743 amends CEQA by adding public resources code section 21099 regarding analysis of aesthetics and parking impacts for urban infill projects. The project is identified as an urban infill project.¹⁶

¹⁵ SB 743 can be found online at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB743.

¹⁶ San Francisco Planning Department. 2019. Eligibility Checklist: CEQA Section 21099 Modernization of Transportation Analysis for 469 Stevenson Street Project, 2017-014833ENV. PDF.

AESTHETICS AND PARKING ANALYSIS

Public resources code section 21099(d), effective January 1, 2014, states, “Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment.” Accordingly, aesthetics and parking are no longer to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all of the following three criteria:

- a) The project is in a transit priority area
- b) The project is on an infill site
- c) The project is residential, mixed-use residential, or an employment center

The proposed project meets each of the above three criteria because it: (1) is located within one-half mile of several rail and bus transit routes, including the BART and Muni Powell Street Station, (2) is located on an infill site that is already developed as a surface parking lot, and is surrounded by other urban development, and (3) would be a mixed-use residential project with ground floor commercial retail. Therefore, this initial study and the EIR for this project do not consider aesthetics and the adequacy of parking in determining the significance of project impacts under CEQA.

Public resources code section 21099(e) states that a lead agency maintains the authority to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers and that aesthetic impacts do not include impacts on historic or cultural resources. As such, there is no change in the planning department’s analysis methodology related to design and historic review.

The planning department recognizes that the public and decision-makers nonetheless may be interested in information pertaining to the aesthetic effects of a proposed project and may desire that such information be provided as part of the environmental review process. Therefore, some of the information that would have otherwise been provided in an aesthetics section of an initial study or EIR (such as project drawings) is included in the project description. However, this information is provided solely for informational purposes and is not used to determine the significance of environmental impacts of the project pursuant to CEQA.

AUTOMOBILE DELAY AND VEHICLE MILES TRAVELED

Public resources code section 21099(b)(1) requires that the State Office of Planning and Research (OPR) develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that promote the “reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” Section 21099(b)(2) states that upon certification of the revised CEQA Guidelines for determining transportation impacts pursuant to section 21099(b)(1), automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, OPR published for public review and comment its *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, recommending that the transportation impacts of projects be measured using a vehicle-miles-traveled (VMT) metric. On

March 3, 2016, based on compelling evidence in that document and the planning department's independent review of literature on LOS and VMT, the Planning Commission adopted OPR's recommendation to use the VMT metric instead of automobile delay in evaluating the transportation impacts of projects (resolution 19579). In December 2018, OPR released its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, finalizing these recommendations. Also, in December 2018, the Natural Resources Agency finalized updates to the CEQA Guidelines that replaced level of service with VMT as a transportation threshold in the Appendix G initial study checklist.

D.3 NEAR-TERM BASELINE ANALYSIS

CEQA Guidelines section 15125 states that the environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The environmental setting typically includes the existing physical conditions on the project site and vicinity, including projects that are under construction. The environmental analysis then presents existing and existing-plus-project scenarios to identify environmental impacts that would occur from implementation of a proposed project. However, where it is certain that near-term improvements would be implemented prior to a project's construction or operation, such analysis could be misleading to decision-makers and the public.

For this initial study and EIR, it is necessary to evaluate the environmental impacts of the proposed project against a near-term baseline that is different from the current existing conditions because two transportation infrastructure projects (Central Subway and the Sixth Street Pedestrian Safety Project) are either under construction or approved, funded and expected to be under construction or completed by the time the proposed project is operational. These projects and how they are included in the environmental analysis are further described below.

The Central Subway project represents the second phase of the Muni T Third Street light rail service, extending service along a 1.7-mile alignment (including 1.5 miles underground) from the Caltrain terminal at Fourth and King Streets north along Fourth and Stockton streets through Central SoMa/Yerba Buena Center and Union Square to Chinatown. Four new stations will be constructed along the 1.7-mile alignment: 4th and Brannan Station, Yerba Buena/Moscone Station, Union Square/Market Street Station, and Chinatown Station. The construction and operational analysis of the proposed project considers the Central Subway project complete and operating because this project is under construction with revenue service anticipated to begin in 2019, which is prior to any approvals that would be issued for this project. As such, there would not be any potential for overlap of construction activities associated with the Central Subway project and the proposed project.

The Sixth Street Pedestrian Safety Project is part of San Francisco's Vision Zero initiative – the city's goal of reducing all traffic deaths by 2024. The Sixth Street Pedestrian Safety Project would transform Sixth Street by providing wider sidewalks, new traffic signals, and streetscape

improvements to create a safe and inviting place for people to walk. Quick-build roadway changes on Sixth Street between Market and Howard Streets are beginning September 2019 to improve traffic safety.¹⁷ Construction of the larger streetscape improvements such as widening sidewalks, adding lighting, and landscaping would occur in spring of 2020 and is anticipated to last approximately 18 months. Given the proposed project's anticipated construction start date of 2021, there is potential for construction of the Sixth Street Pedestrian Safety Project to overlap with that of the proposed project. However, given the proposed length of construction for the Sixth Street Pedestrian Safety Project (18 months) and the expected start date (fall 2021) and length of construction for the proposed project (36 months), it is anticipated that the Sixth Street Pedestrian Safety Project would be completed prior to completion of the proposed project. The near-term baseline operational impact analysis of the proposed project therefore includes the operational changes that would be implemented by the Sixth Street Pedestrian Safety project.

The analysis accounts for any construction effects of the proposed project that could combine with that of the Sixth Street Pedestrian Safety project in the cumulative analysis.

The above projects included in the near-term 2020 baseline condition will result in implementation of transportation network changes that are used in the analysis of the proposed project's operations.

D.4 CUMULATIVE ANALYSIS

CEQA Guidelines section 15355 states that 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 future projects. CEQA Guidelines section 15130(b)(1) provides for two approaches to cumulative impacts analysis: list-based and projections-based. For a list-based approach, a list of probable future projects producing related impacts is prepared. For a projections-based approach, a summary of projects contained in an adopted local, regional, or statewide plan that describes or evaluates conditions contributing to the cumulative effect is used.

The discussion of cumulative impacts should reflect the severity of impact and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for effects attributable to the project alone. The discussion of cumulative impacts should be guided by the standards of practicality and reasonableness and should focus on the cumulative impacts to which the identified other projects contribute, rather than the attributes of other projects which do not contribute to the cumulative impact (CEQA Guidelines, section 15130[b]).

In this initial study, cumulative impacts are analyzed for each environmental topic and the proposed project's contribution to a cumulative impact, if any, is discussed. The cumulative impact analysis in this initial study may employ a list-based approach or a projections approach,

¹⁷ San Francisco Municipal Transportation Agency. 2019. Sixth Street Pedestrian Safety Project, Quick-Build Traffic Safety Improvements. Available: https://www.sfmta.com/sites/default/files/reports-and-documents/2019/07/6th_st_quick_build_mailer_7.15.2019.pdf. Accessed: July 26, 2019.

depending on which approach best suits the individual resource topic being analyzed. As described above under Cumulative Project Setting, Table 2 represents cumulative projects within a 0.25-mile radius of the project site. These projects may be considered in determining environmental effects that are more localized. A projections-based analysis would consider county-wide or regional growth and is typically based on growth projections developed by the Association of Bay Area Governments (ABAG) and refined by planning department staff. The cumulative analysis defines the cumulative context appropriate for analysis of each specific environmental topic.

E. EVALUATION OF ENVIRONMENTAL EFFECTS

E.1 Land Use and Planning

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
1. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a significant physical 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact LU-1: The proposed project would not physically divide an established community. (*Less than Significant*)

The division of an established community typically involves the construction of a physical barrier to neighborhood access, such as a new freeway, or the removal of a means of access, such as a bridge or a roadway. Implementation of the proposed project would not result in the construction of a physical barrier to neighborhood access or the removal of an existing means of access; it would result in the construction of a new 27-story, 274-foot-tall building (with an additional 10 feet for rooftop mechanical equipment) within established lot boundaries. The proposed project would not alter the established street grid or permanently close any streets or sidewalks. Although portions of the sidewalks and streets adjacent to the project site could be closed for periods of time during project construction, these closures would be temporary and only occur during construction. Therefore, the proposed project would result in a less-than-significant impact related to physically dividing an established community. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact LU-2: The proposed project would not cause a significant physical 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. (*Less than Significant*)

Land use impacts could be considered significant if the proposed project would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. The determination as to whether a conflict with a land use plan, policy, or regulation is significant under CEQA is based on whether that conflict would result in a significant physical environmental impact. The proposed project would not obviously conflict with any applicable land use plan, policy, or regulation such that an adverse physical change would result (see Section C, Compatibility with Existing Zoning and Plans).

Applicable land use plans that regulate development on the project site include the San Francisco General Plan and the San Francisco Planning Code. As discussed in Section C, Compatibility with Existing Zoning and Plans, the proposed project would conform to the C-3-G zoning district that allows for both commercial and residential development. The project proposes to use the

Individually Requested State Density Bonus program by providing 19 percent of the base project's residential units as very low affordable dwelling units onsite. In exchange for providing these affordable dwelling units, the proposed project is requesting a 35 percent increase in density and waivers from height, bulk, and other physical constraints of the planning code and is reserving its right to use the incentives afforded by providing affordable dwelling units onsite. As discussed in Section C, Compatibility with Existing Zoning and Plans, these conflicts would be addressed through the proposed project's entitlement process, including required exceptions from planning code requirements and compliance with the Individually Requested State Density Bonus program.

The physical environmental effects of the proposed project related to various resource topics are analyzed in this initial study and its EIR. The impact on land use plans and policies would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-LU-1: The proposed project, in combination with reasonably foreseeable future projects, would not result in significant cumulative impacts related to land use. (*Less than Significant*)

The cumulative context for land use effects are typically localized, within the immediate vicinity of the project site, or at the neighborhood level. Cumulative development in the project vicinity (within a 0.25-mile radius of the project site) includes the projects identified in Table 2 and on Figure 18. The cumulative development projects in Table 2 consist of residential, mixed-use residential, and hotel infill development projects.

Upon completion of the project, the proposed project would not physically divide an established community, and therefore would have no potential to combine with cumulative projects to result in a significant physical environmental impact related to dividing an established community. During construction, the project may require temporary sidewalk and street closures as could other cumulative construction activity in the project vicinity. Because all sidewalk and street closures are required to maintain pedestrian access through the surrounding areas and because any access detours or restrictions would be temporary in nature, any cumulative impacts related to physically dividing an established community would be less than significant.

All cumulative projects are required to conform with the planning code, including its zoning maps, and required to be generally consistent with the general plan. Therefore, the proposed project in combination with reasonably foreseeable future projects would not result in a significant cumulative impact related to a conflict with a land use plan, policy, or regulation adopted for the purpose of mitigating an environmental impact, and cumulative impacts would be less than significant. No mitigation measures are required.

E.2 Population and Housing

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
2. POPULATION AND HOUSING. Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact PH-1: The proposed project would not induce substantial unplanned population growth in an area, either directly or indirectly. (*Less Than Significant*)

The proposed project would be considered growth inducing if its implementation would result in substantial unplanned population increases and/or new development that might not occur if the project were not approved and implemented. The proposed project would include the construction of a mixed-use infill development consisting of approximately 4,000 square feet of commercial space on the ground floor with 462 residential dwelling units above. The project site is in an urbanized area and would not be expected to substantially alter existing development patterns in the Downtown neighborhood in which it is located, or in San Francisco as a whole. Furthermore, the project site is in an established urban neighborhood and would not require, or create new demand for, the extension of municipal infrastructure.

According to the U.S. Census Bureau's most recent American Community Survey,¹⁸ the City and County of San Francisco had an estimated population of about 883,305 residents, and 397,550 housing units in 2018. Census Tract 176.01, which includes the project site and immediate vicinity, has a population of 8,432 and a total of 5,931 housing units.¹⁹

ABAG prepares projections of employment and housing growth for the Bay Area. The latest projections were prepared as part of Plan Bay Area 2040, which is the current long-range Regional Transportation Plan and Sustainable Communities Strategy adopted by the Metropolitan Transportation Commission and ABAG in March 2018. Plan Bay Area identifies an increasing percentage of Bay Area growth that is expected to occur as infill development in areas with access

¹⁸ U.S. Census Bureau, San Francisco County, California, Families and Living Arrangements, Households, 2013-2017.

Available online at: <https://www.census.gov/quickfacts/sanfranciscocountycalifornia>. Accessed May 20, 2019.

¹⁹ Census Reporter, Census Tract 176.01, San Francisco, California, 2017. Available online at:

<https://censusreporter.org/profiles/14000US06075017601-census-tract-17601-san-francisco-ca/>. Accessed June 14, 2019.

to transit. To facilitate that, Plan Bay Area 2040 focuses growth and development in nearly 200 Priority Development Areas (PDAs). These existing neighborhoods are served by public transit and have been identified as appropriate for additional, compact development. The project site is located within the Downtown/Van Ness/Geary PDA. The growth projections prepared by ABAG for Plan Bay Area 2040 for San Francisco County anticipate 483,700 households in 2040 (an increase of 137,800 households between 2010 and 2040) and 872,500 jobs in 2040 (an increase of 295,700 jobs between 2010 and 2040).²⁰ Additionally, the housing element projects a population of 1,085,700 by 2040.²¹

Based on the average household size in the City and County of San Francisco of 2.35 people per household,²² the addition of 462 new residential units, as the project proposes, would increase the citywide population by approximately 1,086 residents.²³ This would represent a residential population increase of approximately 13 percent over the existing census tract population, and approximately 0.12 percent citywide. The proposed project's 462 residential units would represent a fraction of the expected increase in citywide households and population, as projected in Plan Bay Area 2040 and the housing element. Therefore, the proposed project would not induce population growth but rather accommodate the need for housing within the city.

Based on the size of the proposed commercial space (approximately 4,000 square feet), the new businesses would employ a total of approximately 11 staff.²⁴ This amount of retail is not anticipated to attract new employees to San Francisco. Therefore, it can be anticipated that most of the employees would live in San Francisco (or nearby communities), and that the proposed project would not generate demand for new housing for the potential commercial employees. In light of the above, additional population and employees associated with the proposed project would have a less-than-significant impact related to population growth, both directly and indirectly. The physical environmental effects of the project's anticipated increase in population (both residents and employees) are analyzed in the environmental topic sections of this initial study and the accompanying EIR. No mitigation measures are required. This topic will not be discussed in the EIR.

20 Metropolitan Transportation Commission and Association of Bay Area Government, Plan Bay Area 2010 Final Supplemental Report: Land Use and Modeling Report. July 2017. This document is available online at: <http://2040.planbayarea.org/reports>. Accessed November 7, 2018.

21 San Francisco Planning Department, 2014 Housing Element, San Francisco General Plan, adopted April 27, 2015, http://www.sfplanning.org/ftp/General_Plan/2014HousingElement-AllParts_ADOPTED_web.pdf, accessed February 5, 2019.

22 U.S. Census Bureau, San Francisco County, California, Families and Living Arrangements, Persons per households, 2013-2017. Available online at: <https://www.census.gov/quickfacts/sanfranciscocountycalifornia>. Accessed June 12, 2019.

23 $462 \text{ residential units} \times 2.35 \text{ people per household} = 1,086 \text{ new residents}$.

24 San Francisco Planning Department, Transportation Impact Analysis Guidelines for Environmental Review (Guidelines), February 2019. The estimated number of employees is based on the Guidelines which assumes an average of 1 employee per 350 square feet of retail ($4,000 \text{ square feet of retail} \div 350 = 11 \text{ employees}$).

Impact PH-2: The proposed project would not displace substantial numbers of existing housing units, or substantial numbers of people necessitating the construction of replacement housing. (No Impact)

As the project site is currently developed as a parking lot, the proposed project would not displace any residents or housing units. Therefore, the proposed project would have no direct impact related to the displacement of housing units or people and would not necessitate the construction of replacement housing. It is also noted that the planning department, with assistance from ALH Urban & Regional Economics, has completed extensive analysis of gentrification and displacement in the city to determine whether individual projects, including market-rate housing projects, contribute to gentrification and displacement and whether either of these phenomena directly or indirectly result in physical environmental effects. The planning department has not found empirical evidence supporting the position that market-rate housing development leads to residential or commercial displacement that results in secondary physical effects on the environment. No impact would occur. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-PH-1: The proposed project, in combination with reasonably foreseeable projects in the vicinity, would not result in a significant cumulative impact related to population and housing. (Less than Significant)

As discussed above, Plan Bay Area 2040 includes housing and employment projections anticipated to occur in San Francisco through 2040 and calls for focused growth and development within PDAs. The Plan Bay Area 2040 projections provide the cumulative context for the population and housing analysis. The growth projections in Plan Bay Area 2040 for San Francisco County anticipate 483,700 households in 2040 (an increase of 137,800 households between 2010 and 2040) and 872,500 jobs in 2040 (an increase of 295,700 jobs between 2010 and 2040).²⁵

As discussed above, according to the most recent American Communities Survey, San Francisco has an estimated population of 883,305 residents and 397,550 housing units. As of the fourth quarter of 2018, approximately 70,960 net new housing units are in the pipeline (e.g., are either under construction, have building permits approved or filed, or applications filed, including remaining phases of major multi-phased projects).²⁶ The pipeline also includes the proposed project's 462 residential units. Conservatively assuming that every housing unit in the pipeline is developed and at 100 percent occupancy (no vacancies), the pipeline would accommodate an additional 70,960 households. The pipeline also includes projects with land uses that would result in an estimated 94,600 new employees.^{27,28} As such, cumulative household and employment

²⁵ Metropolitan Transportation Commission and Association of Bay Area Government, Plan Bay Area 2010 Final Supplemental Report: Land Use and Modeling Report. July 2017. This document is available online at: <http://2040.planbayarea.org/reports>. Accessed November 7, 2018.

²⁶ San Francisco Planning Department, 2018 Q4. Housing Development Pipeline. Available online at: <https://sfplanning.org/project/pipeline-report>. Accessed April 10, 2019.

²⁷ Ibid.

²⁸ San Francisco Planning Department, Citywide Division, Information and Analysis Group, Scott Edmundson, March 19, 2019.

growth is below the ABAG projections for planned growth in San Francisco. Therefore, the proposed project in combination with citywide development would not result in significant cumulative environmental effects associated with inducing unplanned population growth or displacing substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. For this reason, cumulative population and housing impacts would be less than significant. No mitigation measures are required.

E.3 Cultural Resources

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
3. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historic architectural resource. (*Less than Significant*)

Historical resources are those properties that meet the definitions in section 21084.1 of the CEQA statute and section 15064.5 of the CEQA Guidelines. Historical resources include properties listed in, or formally determined eligible for listing in, the California Register of Historical Resources (California Register) or in an adopted local historic register. Historical resources also include resources identified as significant in a historical resource survey meeting certain criteria. Additionally, properties that are not listed but are otherwise determined to be historically significant, based on substantial evidence, would also be considered historical resources. The significance of a historical resource is materially impaired when a project “demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance.” The following discussion is based on the cultural resources analysis conducted by the planning department.²⁹

The project site is in the city’s SoMa neighborhood and developed as a surface parking lot. There are no existing onsite structures at the project site and it is not located within a historic district, or landmark district.³⁰ However, the project site is directly adjacent to the National Register-eligible Market Street Theatre and Loft Historic District, National and California-Register eligible Sixth Street Lodging House Historic District, and the Mint-Mission article 11 Conservation District,³¹

²⁹ San Francisco Planning Department. Historic Resource Status for Properties Adjacent to 469 Stevenson Street, September 25, 2019]

³⁰ San Francisco Planning Department. 2019. San Francisco Property Information Map, Historic Preservation. Accessed February 4, 2019. <https://sfplanninggis.org/pim/>.

³¹ Article 11 contains an adopted local register of historic resources in the C-3 (Downtown) district.

and a property within the Pacific Gas and Electric (PG&E) City Beautiful Substations Discontinuous Thematic Historic District. Buildings that are identified as contributors and non-contributors within the historic and conservation districts adjacent to the project site are listed in Table 3 and shown on Figure 19.

TABLE 3: CONTRIBUTORS AND NON-CONTRIBUTORS WITHIN HISTORIC/CONSERVATION DISTRICTS ADJACENT TO THE PROJECT SITE

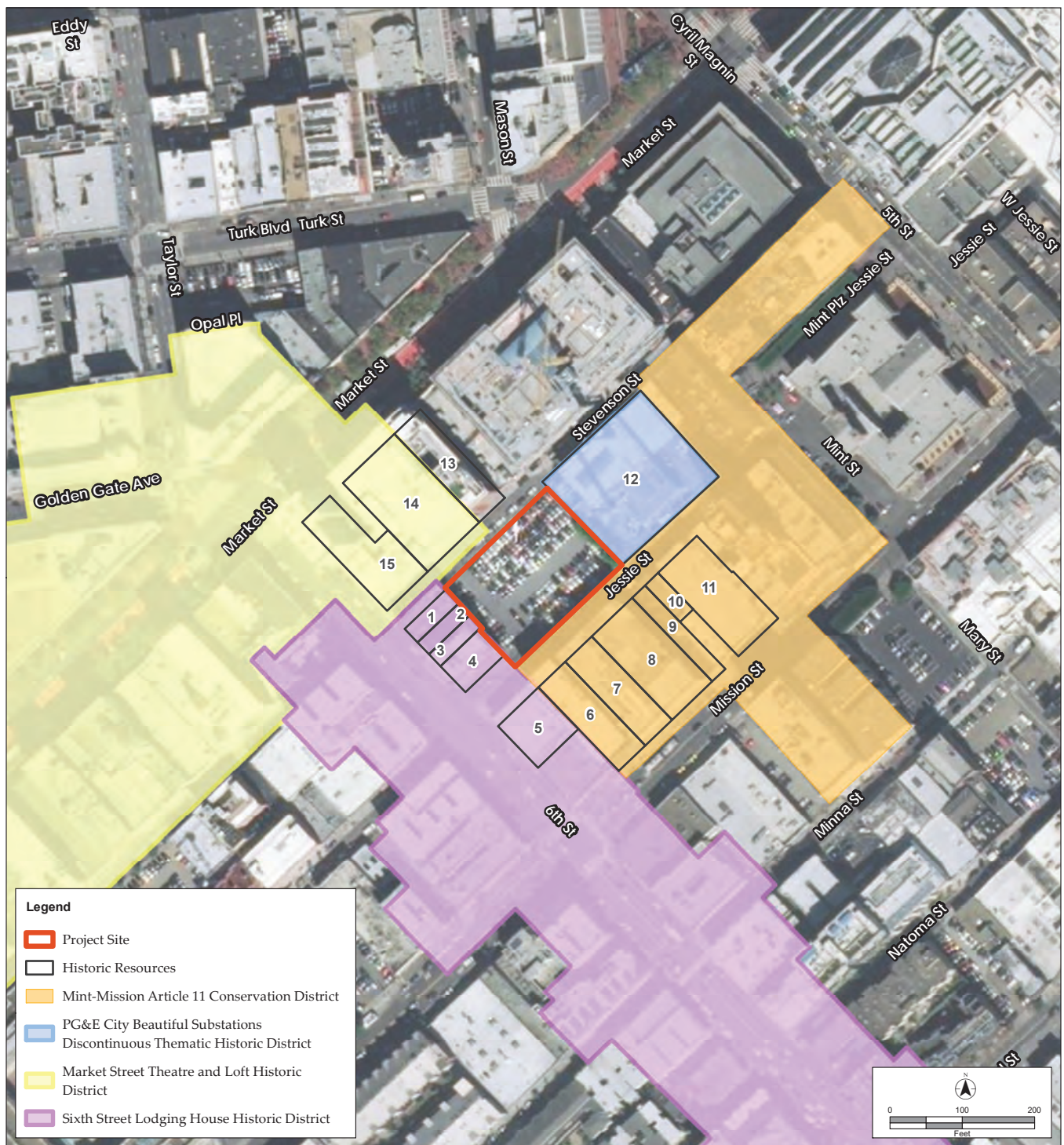
Map No. Building Address	Historic/Conservation District	Date of Construction	Contributor to Historic District
1. 35-37 Sixth Street	Sixth Street Lodging House Historic District	1908	Yes
2. 39-41 Sixth Street	Sixth Street Lodging House Historic District	1906	Yes
3. 43-45 Sixth Street	Sixth Street Lodging House Historic District	1907	Yes
4. 47-55 Sixth Street	Sixth Street Lodging House Historic District	1912	Yes
5. 65-83 Sixth Street	Sixth Street Lodging House Historic District	1913	Yes
6. 986 Mission Street / 481 Jessie Street	Mint-Mission article 11 Conservation District	1907	Yes
7. 980-984 Mission Street/ 479 Jessie Street	Mint-Mission article 11 Conservation District	1924	Yes
8. 972-976 Mission Street	Mint-Mission article 11 Conservation District	1925	Yes
9. 968 Mission Street	Mint-Mission article 11 Conservation District	1930	Yes
10. 471 Jessie Street	Mint-Mission article 11 Conservation District	1912	Yes
11. 956-960 Mission Street	Mint-Mission article 11 Conservation District	1910	No
12. Clearway Energy Thermal Power Station (460 Jessie Street)	PG&E City Beautiful Substations Discontinuous Thematic Historic District	1924	Yes
13. 973 Market Street	Market Street Theatre and Loft Historic District	1904	Yes
14. 979-989 Market Street	Market Street Theatre and Loft Historic District	1907	Yes
15. 995 Market Street / 1 Sixth Street	Market Street Theatre and Loft Historic District	1908	No
Source: San Francisco Planning Department. 2019. Historic Resource Status for Properties Adjacent to 469 Stevenson Street.			

The proposed project includes the construction of a building that would be a different scale than existing adjacent historic resources, particularly 35-37, 39-41, and 43-45 Sixth Street, which are low-scale 3-story contributing buildings in the National and California-Register eligible Sixth Street Lodging House Historic District. However, the proposed project's setbacks on the north and west elevations would distance the project's tallest massing from these historical resources (; ensuring their setting is not compromised.

Although the project site directly abuts the thermal power plant at 460 Jessie Street, which is identified as a contributor to the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District, the industrial nature of the historic resource is such that its setting would not be impacted by the proposed project. Other identified historical resources, such as the article 11 Mint-Mission Conservation District, and the National Register-listed Market Street Theater and Loft Historic District, have primary elevations that front onto streets away from the proposed project (Market Street and Mission Street) or are sufficiently distanced from the project site such that their setting would not be adversely impacted. Therefore, the planning department determined that the project's proposed design would not materially alter in an adverse manner the physical characteristics of the adjacent historical resources such that their historical significance would be affected.

In summary, the proposed project would not result in a significant impact to the National Register-eligible Market Street Theatre and Loft Historic District, National and California-Register eligible Sixth Street Lodging House Historic District, article 11 Mint-Mission Conservation District, or the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. No mitigation measures are required. This topic will not be discussed in the EIR.

This page left intentionally blank.



Legend

- Project Site
- Historic Resources
- Mint-Mission Article 11 Conservation District
- PG&E City Beautiful Substations
- Market Street Theatre and Loft Historic District
- Sixth Street Lodging House Historic District

- | | | |
|-----------------------|---|--|
| 1. 35-37 Sixth Street | 6. 986 Mission Street/481 Jessie Street | 11. 956-960 Mission Street (non-contributor) |
| 2. 39-41 Sixth Street | 7. 980-984 Mission Street | 12. 460 Jessie Street |
| 3. 43-45 Sixth Street | 8. 972- 976 Mission Street | 13. 973 Market Street |
| 4. 47-55 Sixth Street | 9. 968 Mission Street | 14. 979-989 Market Street |
| 5. 65-83 Sixth Street | 10. 471 Jessie Street | 15. 995 Market/ 1 Sixth Street (non-contributor) |

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

469 Stevenson Street Project

Case No. 2017-014833ENV

Figure 19: Historic Resources in the Project Vicinity

This page left intentionally blank.

Impact CR-2: Demolition of the existing surface parking lot and construction of the proposed project would not result in physical damage to adjacent historic resources. (*Less than Significant*)

As noted above, the project site is directly adjacent to the Market Street Theatre and Loft Historic District, Sixth Street Lodging House Historic District, the Mint-Mission article 11 Conservation District, and a property within the Pacific Gas and Electric (PG&E) City Beautiful Substations Discontinuous Thematic Historic District. Buildings that are identified as contributors and non-contributors within the adjacent historic and conservation districts to the project site are listed above in Table 3 and shown on Figure 19. The following paragraph summarizes the results of the project's potential construction vibration impacts to adjacent historic resources. The complete vibration analysis is provided in Appendix A and the results of that analysis are summarized in Section E.6, Noise, of this initial study.

As discussed in Section E.6, Noise, the buildings listed in Table 3 fall within the California Department of Transportation (Caltrans) damage criteria category of "Historic and Some Old Buildings." The proposed project would use vibration-generating equipment during construction activities. The nearest vibration sensitive buildings that would be exposed to this equipment includes the buildings along Sixth Street (35-37, 39-41, 43-45, and 47-55 Sixth Street), which are approximately 20 feet from the project site. Based on Caltrans's suggested vibration damage criteria for "Historic and Some Old Buildings" (0.25 peak particle velocity [PPV]), and the peak particle velocity equation established by the Federal Transit Administration ($PPV = PPV_{ref} \times [25/Distance]^{1.5}$) the vibration-generating equipment used during construction activities would generate vibration levels ranging from 0.04 PPV to 0.12 PPV. As such, the vibration levels generated during construction would not exceed the Caltrans vibration damage criteria of 0.25 PPV and the proposed project would not damage adjacent historic resources as a result of construction vibration. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact CR-3: The proposed project could result in a substantial adverse change in the significance of an archeological resource. (*Less than Significant with Mitigation*)

Determining the potential for encountering archeological resources includes relevant factors such as the location, depth, and amount of excavation proposed as well as any recorded information on known resources in the area. Construction of the proposed project would require excavation of the project site to approximately 55 feet below ground surface (bgs) and removal of approximately 55,800 cubic yards of soil for construction of the below grade garage and foundation work. To determine the potential for the proposed project to affect archeological resources, the planning department conducted a preliminary archeological review of the project site.³² While there are no known prehistoric or historic resources at the project site, the preliminary archaeological review determined that the project site is highly sensitive for prehistoric archeological resources based on proximity of the project site to the resource-rich historic bayshore and Sullivan Marsh. There are

³² San Francisco Planning Department. Environmental Review Preliminary Archeological Review for 469 Stevenson Street, February 19, 2019.

three known prehistoric sites within 0.25 mile of the project site.³³ Intact prehistoric archaeological deposits could be present in the buried dune or marsh deposits, to the full depth of project excavations. Redeposited prehistoric archaeological deposits could also be present in the artificial fill/ reworked native soils that form the uppermost stratum of the project site, as much as 40 feet below surface in native sand and marsh deposits.

Preliminary archaeological review of the project site's development history suggests that earthquake-related debris and fill is likely present in the upper few feet below the surface, but that there is a high potential for the presence of 19th century historic domestic archaeological features under this fill/debris. There also may be the potential for power-generation-related historic industrial features in project soils on the eastern half of the parcel.

As such, given the proposed project's depth of excavation, approximately 55 feet bgs, there is potential for project construction activities to disturb significant archeological resources and the effect of the proposed project on archeological resources would be significant.

Implementation of Mitigation Measure M-CR-3: Archeological Testing, would be required to reduce the potential impact on archeological resources to a less-than-significant level.

MITIGATION MEASURES

Mitigation Measure M-CR-3: Archeological Testing

Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources and on human remains and associated or unassociated funerary objects. The project sponsor shall retain the services of an archaeological consultant from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the planning department archaeologist. After the first project approval action or as directed by the Environmental Review Officer (ERO), the project sponsor shall contact the department archaeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the ERO. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce

³³ Far Western Anthropological Research Group, Inc., and Environmental Science Associates, Archaeological Research Design and Treatment Plan for the Central SoMa Plan Area, April, 2014.

to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section. 15064.5 (a) and (c).

Consultation with Descendant Communities: On discovery of an archeological site³⁴ with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an appropriate representative³⁵ of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archaeological Resources Report shall be provided to the representative of the descendant group.

Archeological Testing Program. The archeological consultant shall prepare and submit to the ERO for review and approval an *archeological testing plan* (ATP). The *archeological testing program* shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the *archeological testing program* will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes a historical resource under CEQA.

At the completion of the *archeological testing program*, the archeological consultant shall submit a written report of the findings to the ERO. If based on the *archeological testing program* the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional *archeological testing*, *archeological monitoring*, and/or an *archeological data recovery program*. No archeological data recovery shall be undertaken without the prior approval of the ERO or the planning department archeologist. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

- A. The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

³⁴ The term “archeological site” is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.

³⁵ An “appropriate representative” of the descendant group is defined here to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

- B. A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological monitoring program shall minimally include the following provisions:

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. The project shall not require pile driving. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, site remediation, etc., shall require *archeological monitoring* because of the risk these activities pose to potential archaeological resources and to their depositional context;
- The archeological consultant shall undertake a worker training program for soil-disturbing workers that will include an overview of expected resource(s), how to identify the evidence of the expected resource(s), and the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with the project archeological consultant, determined that project construction activities could have no effect on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The project shall not require pile driving. The archeological monitor shall be empowered to temporarily redirect demolition/excavation installation/construction activities and equipment until the deposit is evaluated. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The *archeological data recovery program* shall be conducted in accordance with an *archeological data recovery plan* (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed *data recovery program* will preserve the significant information the archeological resource is expected to contain. That is, the ADRP

will identify what scientific/historical research questions are applicable to the expected resource, what *data classes* the resource is expected to possess, and how the expected *data classes* would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- *Field Methods and Procedures*. Descriptions of proposed field strategies, procedures, and operations.
- *Cataloguing and Laboratory Analysis*. Description of selected cataloguing system and artifact analysis procedures.
- *Discard and Deaccession Policy*. Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program*. Consideration of an onsite/offsite public interpretive program during the course of the *archeological data recovery program*.
- *Security Measures*. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- *Final Report*. Description of proposed report format and distribution of results.
- *Curation*. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains, Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the ERO and the Medical Examiner of the City and County of San Francisco and, in the event of the Medical Examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission, who shall appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98). The ERO also shall be notified immediately upon the discovery of human remains (Public Resources Code section 5097.98). The ERO also shall be notified immediately upon the discovery of human remains.

The project sponsor and ERO shall make all reasonable efforts to develop a Burial Agreement ("Agreement") with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and associated or unassociated funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). The Agreement shall take into consideration the appropriate excavation, removal, recordation, scientific analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD agrees to scientific analyses of the remains and/or associated or unassociated funerary objects, the archaeological consultant shall retain possession of the remains and associated or unassociated funerary objects until completion of

any such analyses, after which the remains and associated or unassociated funerary objects shall be reinterred or curated as specified in the Agreement.

Nothing in existing State regulations or in this mitigation measure compels the project sponsor and the ERO to accept treatment recommendations of an MLD. However, if the ERO, project sponsor and MLD are unable to reach an Agreement on scientific treatment of the remains and associated or unassociated funerary objects, the ERO, with cooperation of the project sponsor, shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance.

Treatment of historic-period human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity, additionally, shall follow protocols laid out in the project's archaeological treatment documents, and in any related agreement established between the project sponsor, Medical Examiner and the ERO.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. The Draft FARR shall include a curation and deaccession plan for all recovered cultural materials. The Draft FARR shall also include an Interpretation Plan for public interpretation of all significant archeological features. Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, the consultant shall also prepare a public distribution version of the FARR. Copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The environmental planning division of the planning department shall receive one bound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of public interest in or the high interpretive value of the resource, the ERO may require a different or additional final report content, format, and distribution than that presented above.

Significance after Mitigation: Under this measure, an archaeological consultant would implement a project-specific archaeological testing plan, and, if necessary, a monitoring plan and data recovery plan. In the event significant archeological resources are discovered, preservation in place of the resource or implementation of a data recovery program is required. Therefore, the significant information that the archeological resource(s) provides would either be preserved or documented and possibly include a public interpretive display. The measures required by Mitigation Measure M-CR-3: Archeological Testing, would ensure that impacts to archeological resources would be reduced to less than significant. This topic will not be discussed in the EIR.

Impact CR-4: The project could disturb human remains, including those interred outside of formal cemeteries. (*Less than Significant with Mitigation*)

There are no known human remains, including those interred outside of formal cemeteries, located in the immediate vicinity of the project site. However, human remains may be present in prehistoric archaeological deposits, and also may potentially be found in isolation. In the event that human remains are encountered during construction, any inadvertent damage to human remains would be considered a significant impact.

MITIGATION MEASURES

Implement *Mitigation Measure M-CR-3: Archeological Testing*. The complete details of this mitigation measure are provided above in this section.

Significance after Mitigation: Mitigation Measure M-CR-3 includes required procedures for the treatment of human remains. With implementation of Mitigation Measure M-CR-3: Archeological Testing, the proposed project would have a less-than-significant impact on previously unknown human remains. This topic will not be discussed in the EIR.

Impact C-CR-1: The proposed project, in combination with reasonably foreseeable projects in the vicinity, could result in a cumulatively considerable contribution to a significant cumulative impact related to cultural resources. (*Less than Significant with Mitigation*)

As discussed above, the project site is a surface parking lot and there are no buildings on the project site that are historically significant. Thus, development on this lot would not result in the direct loss or change to a historic structure. The project site is not within a historic district, conservation district, or thematic district but is directly adjacent to the Market Street Theatre and Loft Historic District, Sixth Street Lodging House Historic District, Mint-Mission article 11 Conservation District, and is in proximity to numerous historic districts. Cumulative projects located nearby, provided in Table 2, include demolition, new construction, and alterations of properties within these historic districts. Of these projects, one project (1055 Market Street) is located within the Market Street Theatre and Loft Historic District and another project (996 Mission Street) is located within the Sixth Street Lodging House Historic District; none of the cumulative projects are within the Mint-Mission article 11 Conservation District. The proposed project is sufficiently distanced from the 1055 Market Street and 996 Mission Street projects such that the proposed project would not combine with the 1055 Market Street and 996 Mission Street project, or other projects, in such a way that there would be a significant cumulative impact on the Market Street Theatre and Loft Historic District, Sixth Street Lodging House Historic District, Mint-Mission article 11 Conservation District, or PG&E City Beautiful Substations Discontinuous Thematic Historic District. Therefore, the proposed project would not combine with cumulative projects to result in significant impacts to historic architectural resources or adjacent historic districts.

Vibration effects are highly localized and vibration attenuates rapidly with distance from the source. Therefore, vibration impacts attributable to construction activities generally would be limited to buildings and structures adjacent to the project site. Since the proposed project would not result in vibration-related damage to adjacent historic structures during construction activities, vibration-generating equipment from the proposed project would not combine with that of cumulative projects (e.g., the 1055 Market Street, 996 Mission Street, Better Market Street, and 527 Stevenson Street projects) to result in cumulative vibration effects that would damage nearby

buildings. Therefore, cumulative vibration effects to nearby historic buildings would be less than significant.

Impacts to archaeological resources and human remains are generally site-specific and limited to the project's construction area. However, there is one cumulative project within 100 feet of the project site (996 Mission Street) that would result in ground disturbance. Given the high sensitivity for prehistoric archeological resources in the immediate vicinity, there is a reasonable potential for the project's construction activities to encounter significant archeological resources that extend beyond the project site and into the areas proposed for excavation by cumulative projects. Therefore, the proposed project in combination with cumulative projects could result in a significant cumulative impact on prehistoric archeological resources. The potential disturbance of archeological resources within the project site could make a cumulatively considerable contribution to a cumulative loss of significant archeological information that would contribute to our understanding of prehistory. Therefore, the proposed project's contribution to this significant impact would be cumulatively considerable.

MITIGATION MEASURES

Implement *Mitigation Measure M-CR-3: Archeological Testing*. The complete details of this mitigation measure are provided above in this section.

Significance after Mitigation: As discussed above, implementation of the approved plans for testing, monitoring, and data recovery under Mitigation Measure M-CR-3: Archeological Testing would preserve and realize the information potential of archeological resources discovered during project excavation activities. The recovery, documentation, and interpretation of information about archeological resources that may be encountered within the project site would enhance knowledge of prehistory and history. This information would be available to future archeological studies, contributing to the collective body of scientific and historic knowledge. With implementation of Mitigation Measure M-CR-3: Archeological Testing, the proposed project's contribution to any potential cumulative impacts related to archeological resources or human remains would not be cumulatively considerable. This topic will not be discussed in the EIR.

E.4 Tribal Cultural Resources

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
4. TRIBAL CULTURAL RESOURCES. Would the project:					
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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact TCR-1: Project-related activities could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074. (*Less than Significant with Mitigation*)

CEQA section 21074.2 requires the CEQA lead agency to consider the effects of a project on tribal cultural resources. As defined in section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historic resources. Pursuant to CEQA section 21080.3.1(d), on March 12, 2019, the planning department contacted Native American individuals and organizations for the San Francisco area, providing a description of the project and requesting comments on the identification, presence, and significance of tribal cultural resources in the project vicinity. During the 30-day comment period, no Native American tribal representatives contacted the planning department to request consultation. On this basis, there are no known tribal cultural resources on the project site.

As discussed in Impact CR-3 in Section E.3, Cultural Resources, the project site is highly sensitive for prehistoric archeological resources based on proximity of the project site to the resource-rich

historic bayshore and Sullivan Marsh. Redeposited prehistoric archaeological deposits could be present in the artificial fill/ reworked native soils that form the uppermost stratum of the project site, as much as 40 feet below surface in native sand and marsh deposits. In San Francisco, based on tribal consultation undertaken by the City and County of San Francisco in 2015, all prehistoric archeological resources are considered also to be potential tribal cultural resources. Impact CR-3 determines that the proposed project's excavation could result in a significant impact to prehistoric archaeological resources should any be encountered. Therefore, the proposed project also has the potential to encounter tribal cultural resources during excavation and other construction activities. Any inadvertent damage to tribal cultural resources would be considered a significant impact. **Mitigation Measure TCR-1, Tribal Cultural Resources Interpretive Program** has been identified to reduce impacts to tribal cultural resources encountered during construction activities to less-than-significant levels.

MITIGATION MEASURES

Mitigation Measure M-TCR-1: Tribal Cultural Resources Interpretive Program

During ground-disturbing activities that encounter archeological resources, if the ERO determines that a significant archeological resource is present, and if in consultation with the affiliated Native American tribal representatives, the ERO determines that the resource constitutes a tribal cultural resource (TCR) and that the resource could be adversely affected by the proposed project, the proposed project shall be redesigned so as to avoid any adverse effect on the significant tribal cultural resource, if feasible.

If the ERO determines that preservation-in-place of the TCR is both feasible and effective, then the archeological consultant shall prepare an archeological resource preservation plan (ARPP). Implementation of the approved ARPP by the archeological consultant shall be required when feasible.

If the ERO, in consultation with the affiliated Native American tribal representatives and the project sponsor, determines that preservation-in-place of the tribal cultural resources is not a sufficient or feasible option, the project sponsor shall implement an interpretive program of the TCR in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO, would be required to guide the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.

Significance after Mitigation: Mitigation Measure M-TCR-1 would require either preservation-in-place of the tribal cultural resources if determined effective and feasible, or the project sponsor would coordinate with the affiliated Native American tribal representatives to prepare and implement an interpretive program regarding the TCR. Therefore, with implementation of

Mitigation Measure M-TCR-1, impacts to tribal cultural resources would be reduced to less than significant. This topic will not be discussed in the EIR.

Impact C-TCR-1: The proposed project, in combination with reasonably foreseeable future projects, could result in a cumulatively considerable contribution to a cumulative tribal cultural resources impacts. (*Less than Significant with Mitigation*)

Cumulatively, as discussed above in Impact C-CR-1, development in the project vicinity has the potential to result in impacts to prehistoric archaeological resources, which are also considered tribal cultural resources. If the project were to encounter tribal cultural resources, this could result in a significant cumulative impact. The potential disturbance of tribal cultural resources within the project site could make a cumulatively considerable contribution to a cumulative loss of tribal cultural resources. Therefore, the proposed project's contribution to this significant impact would be cumulatively considerable.

MITIGATION MEASURES

Implement *Mitigation Measure M-TCR-1: Tribal Cultural Resources Interpretive Program*. The complete details of this mitigation measure are provided above in this section.

Significance after Mitigation: Should any TCRs be encountered during excavation or other construction activities, M-TCR-1 would require those resources to be preserved in place or an interpretive program would be required. Mitigation Measure M-TCR-1 would ensure that the proposed project's contribution to any cumulative impacts on tribal cultural resources would be less than significant. This topic will not be addressed in the EIR.

This page left intentionally blank.

E.5 Transportation and Circulation

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
5. TRANSPORTATION AND CIRCULATION. Would the project:					
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following discussion is based on a transportation analysis prepared for the proposed project in accordance with the planning department's 2019 Transportation Impact Analysis Guidelines for Environmental Review (SF Guidelines).³⁶

This transportation analysis examines the transportation-related impacts of the proposed project's construction activities, as well as the proposed project's operational impacts on transportation hazards, accessibility, public transit, VMT, and loading. The transportation analysis is included in Appendix B of this initial study.

SETTING

The roadway network surrounding the project site is generally an east-west and north-south grid. The project site is bound by Stevenson Street to the north and Jessie Street to the south. Stevenson Street and Jessie Street are both one-way eastbound alleyways. Stevenson Street connects Sixth Street to Fifth Street, while Jessie Street ends at nearby Mint Plaza, where the roadway turns southbound at Mint Street and ends at Mission Street.

Access to the project site for people walking, bicycling, and driving is provided from Fifth Street and Sixth Street, which are both four-lane, north-south roadways that are designated as major arterials in the San Francisco General Plan. Sixth Street is designated as a neighborhood commercial street between Market Street and Folsom Street.

³⁶ The guidelines were updated in February 2019. The updated guidelines include revised guidance on travel demand and updated trip generation rates. The updated guidelines are available here: http://default.sfplanning.org/publications_reports/TIA_Guidelines.pdf

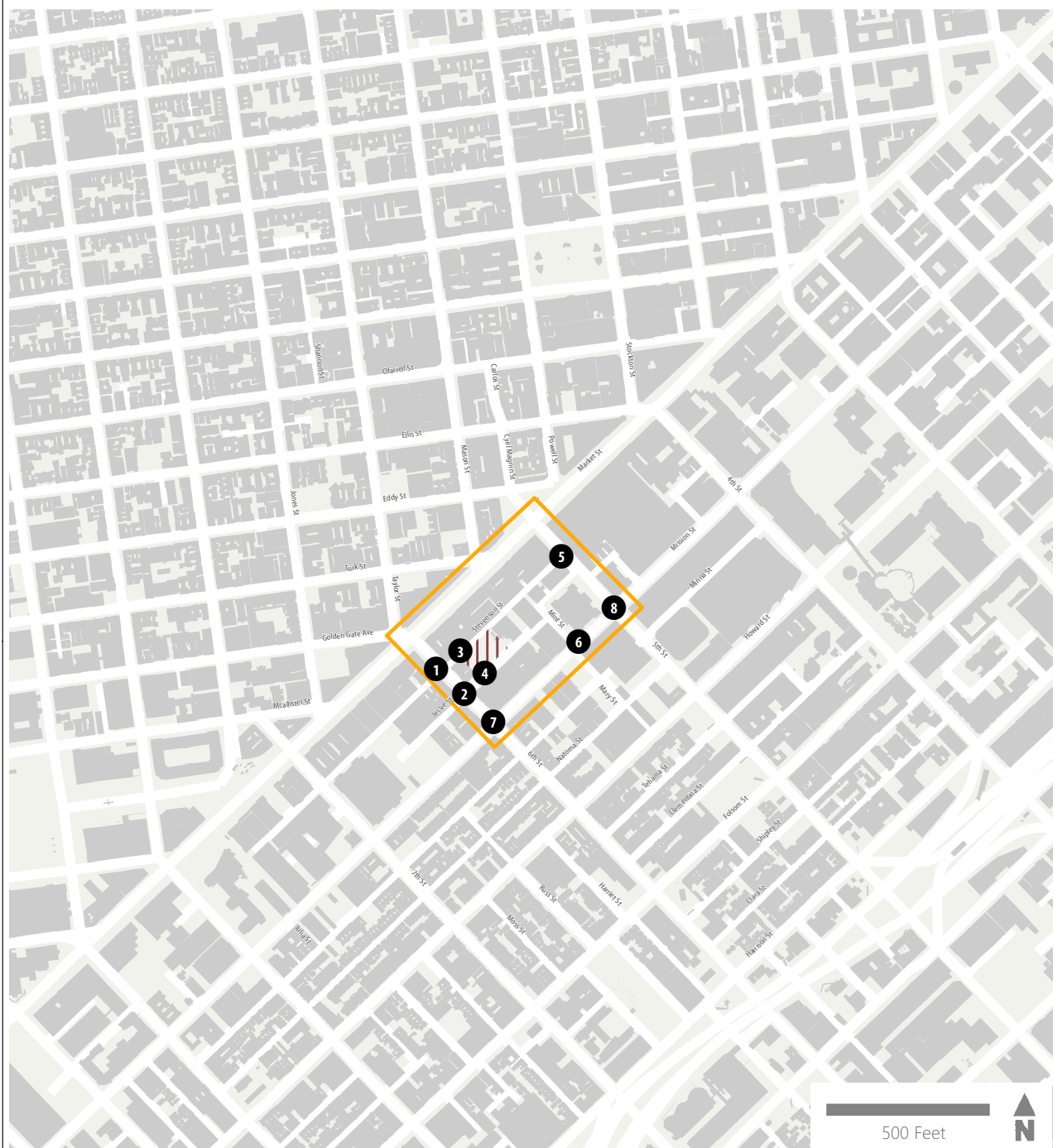
To the north and south of the project site, Market and Mission streets are four-lane, east-west streets designated as transit- and pedestrian-priority streets, with frequent transit service, high ridership, and wider sidewalks encouraging pedestrian-oriented uses. Market Street also has a combination of class 2 and class 3 bicycle facilities near the project site.

Currently, the project site is a 176-space vehicle surface parking lot. Directly adjacent to the project site, on-street parallel parking is provided along the south side of both Stevenson Street and Jessie Street interspersed with several driveways, yellow “commercial loading” zones, white “passenger loading” zones, and red “no parking” zones.

The proposed project is not located in a plan area, although it is adjacent to the Central SoMa Plan and West and Eastern SoMa Plans. The transportation study area generally includes both the areas immediately adjacent to the proposed project and in the nearby vicinity to capture all possible effects on the transportation system. Figure 20 below shows the study areas, including the project site, study intersections, and surrounding street grid.

The project site is well-served by local public transit and regional transit service. The closest surface transit stop is located at Market Street and Sixth Street, approximately 300 feet north of the project site, which serves the F-Market, 6-Haight-Parnassus, 7-Haight-Noriega, 9-San Bruno, 9R-San Bruno Rapid, and 21-Hayes routes. Additionally, local Muni light rail lines K-Ingleside, T-Third Street, J-Church, L-Taraval, M-Oceanview and N-Judah can be accessed from the Powell Street Station located approximately 700 feet northeast of the project site. Regional transit service is provided by BART also via the Powell Street Station. Regional transit service is also provided by SamTrans and Golden Gate Transit. SamTrans routes 292, 397, and 398 serve San Mateo County and run along Mission Street with the closest stop at Mission Street and Fifth Street (approximately 600 feet east of the project site). Golden Gate Transit routes 30, 70, 101, and 101X serve Marin County and also run along Mission Street with the closest stop at Mission Street and Fifth Street. The Muni routes serving the project area provide connections to other regional transit providers, including Alameda County (AC) Transit, Caltrain, and the Golden Gate Ferry Terminal in the Ferry Building.

Sixth Street is identified as a high injury corridor; the Sixth Street Pedestrian Safety Improvement Project, assumed as part of baseline operational conditions in this analysis, is designed to address and improve pedestrian safety along the corridor. The Sixth Street project would add new signals along Sixth Street at Stevenson Street and Jessie Street and provide pedestrian amenities such as widened sidewalks, curb ramps, crosswalks, and pedestrian crossing signal heads at the nearest intersections (Sixth Street/Stevenson Street and Sixth Street/Jessie Street) to the project site. Additionally, in the future, the Sixth Street project would prohibit left turns at these two intersections during the peak hours, reducing the potential for conflicts between turning southbound vehicles and northbound vehicles or people walking or bicycling there.



- # Study Intersection
- Project Site
- Study Area

Source: Fehr and Peers 2019

469 Stevenson Street Project

Case No. 2017-014833ENV

Figure 20: Transportation Study Area

This page left intentionally blank.

PROJECT TRAVEL DEMAND

As described in Section A, Project Description, the proposed project would provide approximately 4,000 square feet of commercial retail space on the ground floor, 462 residential units, 171 vehicle parking spaces (including three car share spaces), 192 class 1 bicycle parking spaces, and 25 class 2 bicycle parking spaces. The proposed project land uses and parking supply are summarized in Table 1 under Project Summary.

Estimated project person trip generation (Table 4) was performed pursuant to methodologies outlined in the San Francisco Guidelines. For purposes of calculating the project's travel demand and trip generation, this analysis did not take trip credits³⁷ associated with the removal of the existing 176-space parking lot. The vehicle trips that use the existing parking lot may continue to drive and park at other nearby parking lots, shift their work schedule, or shift to a non-drive travel mode. However, this analysis assumes no mode shift or time of day shift and does not subtract any existing trips from project trips, resulting in a more conservative estimate of project trips. The analysis does assume that the vehicle trips to the existing parking lot would no longer access the project site and would relocate to other nearby parking facilities. The project is expected to generate approximately 299 p.m. peak hour and 3,355 daily person trips. Of these person trips, the proposed project is expected to generate approximately 55 p.m. peak hour and 628 daily vehicle trips, including trips made by taxis and transportation network companies, and 83 p.m. peak hour and 929 daily transit trips. The existing parking facility serves 43 p.m. peak hour entering/exiting vehicle trips, so the traffic volumes generated by the uses at the project site with and without the proposed project would be similar during the p.m. peak hour.

Estimated project vehicle trips were then assigned to the roadway network based on projected paths of travel. The existing conditions were adjusted to account for changes to the transportation network associated with the approved and funded Sixth Street Pedestrian Safety Improvement Project.³⁸ As a result, the baseline plus project analysis assumes that vehicles would not be allowed to turn left from Sixth Street onto Jessie Street or Stevenson Street during the peak hours to access the project site.

Under baseline plus project conditions, study intersections that would experience the largest increases to vehicle trips would be Sixth Street/Stevenson Street and Sixth Street/Jessie Street as they provide direct access to the project's parking garage and passenger loading zones. The largest increase to a single intersection movement would be 21 p.m. peak vehicle trips traveling northbound through the intersection of Sixth Street/Jessie Street, of which 19 of those vehicles trips

³⁷ Trip credits refer to when the trips associated with the existing land use on a project site are considered in the estimation of net new trips associated with the proposed land use. For example, the number of estimated trips for a proposed project – existing observed trips = net new trips.

³⁸ San Francisco Municipal Transportation Agency, 6th Street Pedestrian Safety Project.
<https://www.sfmta.com/projects/6th-street-pedestrian-safety-project>.

are then estimated to turn right (east) at the Sixth Street/Stevenson Street intersection. Vehicle trip assignment figures are shown in Appendix B.

TABLE 4: PROJECT TRIP GENERATION

Land Use		Person Trips by Mode					Vehicle Trips ²			Transit Trips	
		Auto	Transit	Other ¹	Walk	Total	In	Out	Total	In	Out
Daily											
Retail ³	4,000 sf	95	152	22	329	600	28	31	59	82	71
Residential	462 Dwelling Units (DU)	854	776	80	1,045	2,772	318	251	570	308	468
Total		949	929	103	1,374	3,355	347	282	628	390	539
PM Peak Hour											
Retail	4,000 sf	8	14	2	30	54	2	3	5	6	8
Residential	462 DU	76	69	7	93	245	39	11	50	50	19
Total		84	83	9	123	299	41	15	55	56	27
Notes: General: Due to rounding, numbers may not add up to 100 percent 1. Other includes biking, skateboarding, etc. 2. Vehicle trips accounts for average vehicle occupancy of private auto trips and vehicles operating as Transportation Network Companies (TNCs) and taxis 3. Includes internal/linked trip reductions as appropriate Source: SF Guidelines, Fehr & Peers, 2018											

As shown in Table 5, the project is expected to generate up to 15 daily truck trips and up to one peak hour truck trip. Freight loading demand calculations are shown in Appendix B.

TABLE 5: FREIGHT LOADING DEMAND

Land Use	Truck Trip Generation (Daily)	Truck Trip Generation (peak hour of loading)	Truck Trip Generation (Average generation per hour)
Retail	0.9	0.05	0.04
Residential	13.8	0.80	0.64
Total	14.7	0.85	0.68
Source: SF Guidelines, Fehr & Peers, 2018			

Project passenger loading demand during the p.m. peak hour is two passenger car equivalents, which equate to an approximate 40-foot long loading zone. Passenger loading demand is summarized in Table 6 and in Appendix B.

TABLE 6: PASSENGER LOADING DEMAND

Land Use	Passenger Loading %	PM Peak Hour Loading Instances	PM Peak Hour Spaces of Loading Demand ¹	Rounded PM Peak Hour Spaces of Loading Demand
Retail	5.5%	3	0.05	1
Residential	8.8%	22	0.36	1
Total	-	25	0.41	2
Notes: ¹ Peak hour loading demand is calculated using equations included in the SF Guidelines and an average stop duration of 1 minute. Source: SF Guidelines, Fehr & Peers, 2018				

The department uses significance criteria to facilitate the transportation analysis and address the Appendix G checklist questions. The department separates the significance criteria into construction and operation. The significance criteria are listed below.

Construction

Construction of the project would have a significant effect on the environment if it would require a substantially extended duration or intense activity; and the effects would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with accessibility for people walking or bicycling or substantially delay public transit.

Operation

The operational impact analysis addresses the following five significance criteria. A project would have a significant effect if it would:

- Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations
- Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access
- Substantially delay public transit
- Cause substantial additional VMT or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network
- Result in a loading deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit

NEAR-TERM BASELINE PLUS PROJECT IMPACT ASSESSMENT

Transportation impacts are described below for a near-term baseline with project scenario. Specific projects and plans included in the near-term baseline scenario are: 5M Project (Planning Department Case No. 2011.0409E), Sixth Street Pedestrian Improvement Project, signalization of the intersection at Mission Street and Mint Street (to accommodate a signalized pedestrian

crossing and other pedestrian safety improvements) as part of Vision Zero, and Central Subway. Existing conditions were adjusted to account for projects included in the near-term baseline scenario; these adjustments were made both quantitatively and qualitatively, depending on the nature of the specific project. For instance, project vehicle volumes generated by the 5M Project³⁹ were added to existing intersection volumes⁴⁰ to form baseline intersection volumes. Physical changes associated with improvement projects (Sixth Street, Vision Zero) were assumed to be built under the baseline scenario. Physical changes include signalization of Stevenson Street/Sixth Street, Jessie Street/Sixth Street, and Mission Street/Mint Street, along with other pedestrian safety improvements as described in more detail in subsequent sections. Transit improvements associated with Central Subway, including changes to other routes are assumed to be operational under this baseline scenario.

Impact TR-1: Construction of the proposed project would not require a substantially extended duration or intense activity and the secondary effects would not create potentially hazardous conditions for people walking, bicycling, or driving; or interfere with accessibility for people walking or bicycling; or substantially delay public transit. (*Less than Significant*)

The discussion of construction impacts is based on currently available information from the project sponsor, local and state regulations regarding use of the public right-of-way, and experience with typical construction practices in San Francisco.

Construction activities would be staged on-site and along the Stevenson Street and/or Jessie Street frontages of the project site. It is expected that some temporary partial sidewalk closures along the project frontage on Stevenson Street and Jessie Street would likely be required during the construction period. Periodic closure and use of Jessie Street may also occur for certain construction activities. It is not expected that the project would block Jessie Street for more than one week at a time. At times, staging would occur in both the street and the sidewalk. The street would require occasional closure to allow for project construction activities, such as installation of the tower crane, mat foundation construction or material deliveries. Jessie Street could be used for temporary staging of the tower crane. It is anticipated that construction activities would block 100 feet of Jessie Street for the width of the sidewalk and the driving aisle (primarily for the tower crane erection and dismantling).

During the construction period, there would be a flow of construction-related trucks to and from the project site, which could result in temporary lower capacities of local streets due to the slower movement and larger turning radii of trucks, with the largest disruption to traffic taking place on Stevenson Street and Jessie Street. Construction activities would also generate construction worker trips to and from the project site and temporary demand for vehicle parking and public transit. Project construction is expected to last 36 months (November 2020 to November 2023), and thus the schedule is not expected to require a substantially extended duration or intense activity.

³⁹ San Francisco Planning Department. October 2014. 5M Transportation Impact Study. Case No. 2011.0409E.

⁴⁰ Existing volumes were adjusted to account for the 5M Project at all study intersections except intersection 3 (Stevenson Street/Resident Driveway) and intersection 4 (Jessie Street/Passenger Loading Zone)

Changes to the transportation circulation network in the project area related to construction activities would be temporary and of limited duration. Construction activities in San Francisco that have the potential to affect the transportation network are subject to the San Francisco Municipal Transportation Agency's Regulations for Working in San Francisco Streets, also known as the "blue book," as well as the public works code and public works department orders.⁴¹ The authority for the blue book is derived from the San Francisco Transportation Code and primarily addresses construction activities affecting the public right-of-way. The blue book is a manual for city agencies (public works, San Francisco Municipal Transportation Agency [SFMTA], public utilities commission, the port, etc.), utility crews, private contractors, and others doing work in San Francisco's public right-of-way. The blue book establishes rules for working safely and causing the least possible interference with people walking, bicycling, taking transit and/or transit operations, as well as people driving.

Per blue book requirements, the project sponsor and their construction contractor(s) will prepare a construction management plan and coordinate with appropriate city staff to develop specific measures that would reduce impacts of construction-related traffic to people driving, people bicycling, people walking, and public transit circulation. The construction management plan will include construction staging locations; construction timing (including a provision to limit construction traffic to off-peak periods when possible); notification procedures for adjacent property owners; applicable detours for people walking, people bicycling, and people driving; construction routing; and coordination plans with other nearby projects under construction.

If project construction activities would not comply with the blue book, the contractor must apply for a special traffic permit from the SFMTA. SFMTA staff would specify conditions in the special traffic permit for safe travel in and around the project site. Examples of the types of work addressed through special traffic permits include sidewalk, alley, and street closures, temporary relocation of transit stops and/or routes, and closing or detouring a bicycle route. Additionally, all traffic control implemented as part of any special traffic permit conditions would be required to conform to the California Manual of Uniform Traffic Control Devices.⁴² With respect to public works' policy, a safe and accessible path of travel must be provided for all people walking, including those with disabilities, around construction sites.⁴³ To that end, the public works code includes requirements related to excavation in the public right-of-way and may require the development and implementation of a contractor parking plan.

As stated above, it is expected that temporary partial sidewalk closures along the project frontage on Stevenson Street and Jessie Street may be required during the construction of the proposed

⁴¹ San Francisco Municipal Transportation Agency, City and County of San Francisco Regulations for Working in San Francisco Streets, 8th Edition, January 2012, https://www.sfmta.com/sites/default/files/reports-and-documents/2018/09/blue_book_8th_edition.pdf, accessed November 15, 2018.

⁴² California Department of Transportation, 2014 California Manual of Uniform Traffic Control Devices Rev 3, March 2018, <http://www.dot.ca.gov/trafficops/camutcd/>, accessed November 15, 2018.

⁴³ San Francisco Public Works, Guidelines for the Placement of Barricades at Construction Sites (ORDER NO. 167,840), 2008, http://sfpublicworks.org/sites/default/files/Guidelines_for_Placement_of_Barricades_0.pdf, accessed November 15, 2018.

project. These closures would not create potentially hazardous conditions for people walking, bicycling or driving, and would not interfere with accessibility because the project sponsor would be required to submit accessibility plans for approval by city agencies to ensure continued access for people walking and bicycling. During the construction period, there would be a flow of construction-related trucks to and from the project site, which could result in temporary lower capacities of local streets due to the slower movement and larger turning radii of trucks. However, the largest disruption to transportation modes would take place on Stevenson and Jessie streets where vehicle speeds, and pedestrian and bicycle volumes and speeds are low. People walking on Stevenson Street or Jessie Street may need to use sidewalks across the street from the project frontage during construction if sidewalks adjacent to the project frontage are temporarily closed. Although some additional trips may reroute to other streets with the disruption on Stevenson Street and Jessie Street, direct interference with accessibility for people walking or bicycling on other streets in the area would be minimal due to the low existing demand.

Project construction activities would not require lane closures. Construction vehicles accessing and leaving the project site might delay public transit, but those activities would be temporary. Further, public transit does not operate along Jessie or Stevenson streets, the streets that would result in greatest disruption to traffic during project construction. Therefore, project construction activities would not substantially delay public transit.

Based on the above, construction of the proposed project would not create potentially hazardous conditions for people walking, bicycling, or driving; or substantially interference with accessibility for people walking or bicycling; or substantially delay public transit.

This impact would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact TR-2: Operation of the proposed project would not create potentially hazardous conditions for people walking, bicycling, driving or public transit operations. (*Less than Significant*)

The project proposes to convert an existing 176-space parking lot to a mixed-use residential development. The proposed project does not include any design features that would result in potentially hazardous conditions (e.g., a new sharp curve or dangerous intersections) or include any incompatible uses. The existing site currently has two driveway curb cuts – one on Stevenson Street and one on Jessie Street. With implementation of the proposed project, driveway curb cuts at the project site would be reduced to one on Stevenson Street. The lobby entrance and access point for bicycle parking would be on Jessie Street, which would be the primary access point for people walking or bicycling. Stevenson Street would be the primary access point for people who need to park in the garage, separating and reducing potential conflicts between people driving and those walking or bicycling to and from the project site.

Better Streets Plan standards require sidewalk widths for alleyways must be a minimum of 6 feet. Stevenson Street along the project frontage exceeds the minimum width with 7-foot sidewalks, while Jessie Street along the project frontage exceeds the minimum with 10-foot sidewalks. To inform the project analysis, site observations at 469 Stevenson Street were conducted on Wednesday, September 19, 2018 during the p.m. peak period (defined as 4-6 p.m.). The pedestrian

volume at the Stevenson Street parking lot driveway was observed to be 20 people per hour during the p.m. peak, while observations indicated that the driveway on Jessie Street has little to no foot traffic. The project is anticipated to add an additional 123 walking trips during the p.m. peak, primarily on Jessie Street. Based on site observations and counts, existing pedestrian volumes are low and there is sufficient capacity on adjacent sidewalks to handle both existing foot traffic and the anticipated project-generated walking activity. Because of this and the fact that sidewalks adjacent to the project meet Better Streets standards, the project would not create potentially hazardous conditions for people walking. The project site does not include any physical obstructions or slopes that would obstruct sightlines between a substantial amount of people walking and people driving or bicycling adjacent to the proposed project. In addition, public transit does not operate along Jessie or Stevenson streets. The project does not propose other changes to the roadway network that would create potentially hazardous conditions for people walking, bicycling, driving, or riding public transit.

The proposed project would generate walking and bicycling trips through the intersections along Sixth Street but would not substantially change the number of vehicles turning onto Jessie Street or Stevenson Street when compared to the existing parking lot. Vehicle trips associated with the existing parking lot may remain on the network but would not turn onto Stevenson Street or Jessie Street once the parking lot is removed. New vehicle trips to the proposed project represent an increase of only 12 trips in the p.m. peak hour compared to the existing parking lot, representing less than ten percent of all traffic on Stevenson Street and Jessie Street.

Project-generated vehicle traffic (632 daily and 49 p.m. peak hour vehicle trips) would be dispersed among multiple streets within the project vicinity. Because existing parking lot trips (43 p.m. peak hour vehicle trips) are not removed from the network, some would likely continue to travel through nearby intersections and roadways, resulting in a slight increase in traffic due to the proposed project. This includes Sixth Street at Market Street and Mission Street, Fifth Street at Market Street and Mission Street, and Mission Street and Mint Street (signalized by Vision Zero under baseline conditions). However, the net increase of 49 vehicle trips during the p.m. peak hour (less than one additional vehicle per minute) is minimal compared to existing vehicle volumes in the project vicinity (e.g., over 2,000 vehicles at Sixth and Mission street intersection during the p.m. peak hour). This net increase would not be considered a potentially hazardous condition to other people driving, walking, bicycling, or taking transit at these locations.

Most streets in the study area include signals and pedestrian facilities, except for the side street stop-controlled intersection of Stevenson Street and Fifth Street, which does not have a designated pedestrian crossing across Fifth Street. The proposed project would add 28 vehicle trips to this intersection. The proposed project would not generate a substantial demand for pedestrian crossings at the unmarked crossing at Fifth Street and Stevenson Street.

The proposed off-street loading dock is located within the project garage and is accessed by a shared driveway with the garage. The project is estimated to generate approximately 15 daily truck trips. It is anticipated that those truck trips would use the existing on-street freight loading spaces and the proposed off-street loading dock. The project's garage attendant would serve as a "flagger" and assist trucks entering and exiting to reduce conflicts with people walking, bicycling, and driving on Stevenson Street. If a person driving is waiting to enter the garage while a truck is maneuvering into the loading dock, there is approximately 100 feet available (enough space for

approximately five vehicles) to queue between the driveway and Sixth Street. Therefore, it is not expected that loading activities would result in queuing that would impact transportation operations along Sixth Street. Given this distance and the limited number (49) of p.m. peak hour project vehicles trips, blocking of Sixth Street, including the crosswalk across Stevenson Street, are not expected. No transit currently operates on Sixth Street from Market Street to Mission Street, and no transit is planned for this corridor, so loading operations would not create potentially hazardous conditions for transit operations.

Based on the above, the proposed project would not create potentially hazardous conditions for people walking, bicycling, driving, or riding public transit and impacts are less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact TR-3: Operation of the project would not interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access. (*Less than Significant*)

The proposed project is expected to generate 1,396 daily and 124 p.m. peak hour walking trips. Walking trips generated by the proposed project would include trips to and from transit stops and other nearby land uses. The proposed project would not change the existing sidewalk widths, which are seven feet wide on Stevenson Street and ten feet wide on Jessie Street along the project frontage (meeting Better Streets Plan minimum widths for alleyways). While the project would not widen any sidewalks, the project would make any necessary repairs following construction. People are anticipated to travel across Jessie Street toward the middle of the block, across from the main residential lobby, to reach the passenger loading zone on the south side of Jessie Street. Jessie Street is a narrow alleyway and vehicle volumes and speeds on this alleyway are low. Adequate freight loading is provided off-street such that vehicles loading on-site are not expected to block people walking (refer to Impact TR-6). As a result, impacts related to accessibility for people walking would be less than significant.

The proposed project is expected to generate 104 daily and 9 p.m. peak hour other trips (other includes biking, etc.). To serve people bicycling, the proposed project would include 192 secure class 1 bicycle parking spaces in a designated bicycle storage room located at garage level 1 and accessible via the main lobby on Jessie Street. In addition to class 1 bicycle parking spaces, the proposed project includes 25 class 2 bicycle parking spaces on Stevenson Street and Jessie Street. People riding bicycles to and from the proposed project would use nearby bicycle facilities such as Market Street, Howard Street, Folsom Street, Fifth Street, and Seventh Street to reach Sixth Street or Fifth Street, where they could either ride or walk their bikes to Stevenson Street or Jessie Street to reach the project site. Implementation of the proposed project would not alter the existing street grid or result in other physical changes that would affect these bicycle routes and lanes. While the proposed project would increase the amount of vehicle traffic in the project vicinity, the expected magnitude of this increase on any one street would not be substantial enough to interfere with accessibility of people bicycling. Therefore, impacts related to accessibility for people bicycling would be less than significant.

Emergency vehicle access is currently provided along both Stevenson Street and Jessie Street adjacent to the project site frontages. Emergency access to the site would remain unchanged from existing conditions with the proposed project. The project does not include any design features

that would affect emergency access, such as changes to overhead wires or physical barriers that restrict access. There are no emergency service operator facilities in the immediate vicinity of the project site that rely exclusively on either Stevenson or Jessie streets. Project-generated vehicle traffic would be dispersed among multiple streets within the project vicinity and therefore, would not be expected to result in substantial delay to emergency vehicles in the project vicinity.

The project proposes to include a gate at the garage ramp to meter entering vehicles. A queuing analysis for the p.m. peak period shows that there would be no queue at the garage ramp a majority of the time, and a 2-vehicle queue at the garage ramp up to two percent of the time, or for no more than two minutes during the p.m. peak.⁴⁴ Queues from project vehicle trips can be accommodated on the driveway ramp by placing the gate metering inbound traffic at the base of the driveway. Even if the gate is located at the top of the garage ramp, there would be enough space for one car to queue on the ramp with approximately 100 feet of space (enough space for approximately five vehicles to queue) on Stevenson between the garage driveway and Sixth Street for vehicles to queue. Therefore, project vehicle trips at the garage ramp are not expected to create queues that could hinder emergency vehicle access to the site. Additionally, non-emergency vehicles must yield right-of-way to emergency vehicles per the California Vehicle Code. Finally, the proposed project would not close off any existing streets or entrances to public uses or otherwise interfere with emergency access. Therefore, the proposed project would have a less-than-significant impact on emergency access.

Based on the information above, the proposed project's operations would not interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access and impacts are less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact TR-4: Operation of the proposed project would not substantially delay public transit.
(Less than Significant)

The project site is located Downtown near many major local and regional transit routes. There are numerous public transit options available on Market Street, approximately 300 feet north of the project site. The Powell Street BART and Muni Metro Station is located approximately 700 feet northeast of the project site. The proposed project would generate 929 daily transit trips, including 83 during the p.m. peak hour. These transit trips would be distributed among the multiple transit lines serving the project vicinity.

The proposed project would generate 55 vehicle trips during the p.m. peak hour. The department's screening criteria for a quantitative analysis of transit delay is 300 inbound peak hour project-generated vehicle trips. As the proposed project is estimated to result in fewer than 300 inbound project vehicle trips during the peak hour, a quantitative transit delay analysis is not

⁴⁴ Driveway queuing analysis is shown in Appendix B.

required.⁴⁵ The majority of project-generated vehicle trips will access the garage on Stevenson Street or the passenger loading zone on Jessie Street via Sixth Street. As described under Impact TR-3, vehicle queues can be accommodated in the project driveway. In the event that vehicles must queue outside the project driveway while waiting for a truck to maneuver in or out of the loading dock, there is 100 feet (enough space for approximately five vehicles) available between the driveway and Sixth Street. Therefore, loading operations would not impact transit operations.

No transit currently operates on Sixth Street from Market Street to Mission Street, and no transit is planned for this corridor. Given the locations of the passenger loading zones on Jessie Street and the garage entrance on Stevenson Street and that vehicle trips generated by the proposed project would be distributed to other roadways, relatively few project trips would be added to streets with transit (Market Street, Mission Street, and Fifth Street) and substantial queuing due to the project is not expected on those streets. The proposed project would not add a substantial amount of vehicle trips crossing a transit line or transit facilities. The proposed project would not relocate any existing transit amenities or service. Therefore, the proposed project's traffic would not substantially delay public transit.

In summary, the proposed project would not generate a substantial number of new daily person trips or vehicle trips to roadways with transit service. Thus, the proposed project's impact on transit service delay would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact TR-5: Operation of the proposed project would not cause substantial additional VMT.
(Less than Significant)

Vehicle miles traveled per person (or per capita) is a measurement of the amount and distance that a resident, an employee, or a visitor drives, accounting for the number of passengers within a vehicle. In general, higher VMT areas are associated with more air pollution, including greenhouse gas emissions and energy use, than lower VMT areas. Many interdependent factors affect the amount and distance a person might drive. In particular, the built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travels (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 options for ways of travel 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 compared to a similarly sized development located in urban areas, such as the project site.

Given these travel behavior factors, on average, persons living or working in San Francisco result in lower amounts of VMT per person than persons living or working elsewhere in the nine-county San Francisco Bay Area region. In addition, on average, persons living or working in some areas of San Francisco result in lower amounts of VMT per person than persons living or working

⁴⁵ SF Planning Department, Transportation Impact Analysis (TIA) Guidelines. Available at: http://default.sfplanning.org/publications_reports/TIA_Guidelines.pdf. Appendix I of the TIA Guidelines describes the transit delay screening criteria.

elsewhere in San Francisco. The city displays different amounts of VMT per capita geographically through transportation analysis zones (TAZs).

The San Francisco County Transportation Authority uses the San Francisco chained activity modeling process to estimate VMT by private automobiles and taxis for different TAZs. The transportation authority calibrates travel behavior in the model based on observed behavior from the California Household Travel Survey 2010-2012, census data regarding automobile ownership rates and county-to-county worker flows, and observed vehicle counts and transit boardings. The model uses a synthetic population, which is a set of individual actors that represents the Bay Area's actual population, who make simulated travel decisions for a complete day.

The model estimates daily VMT for residential, office, and retail land use types. For residential and office uses, the transportation authority uses tour-based analysis. A tour-based analysis examines the entire chain of trips over the course of a day, not just trips to and from a site. For retail uses, the transportation authority uses trip-based analysis. A trip-based analysis counts VMT from individual trips to and from a site (as opposed to entire chain of trips). A trip-based approach, as opposed to a tour-based approach, is necessary for retail sites because a tour is likely to consist of trips stopping in multiple locations, and the summarizing of tour VMT to each location would over-estimate VMT.

The department uses existing plus project-level thresholds of significance based on levels at which the department does not anticipate new projects to conflict with state and regional long-term greenhouse gas emission reduction targets and statewide VMT per capita reduction targets. Therefore, the department uses a map-based screening criterion to identify types and locations of land use projects that would not exceed the same quantitative thresholds of significance described under existing plus project conditions.

Table 7 presents the existing average daily VMT per capita for residents and employees for the nine-county San Francisco Bay Area and for TAZ 667, the zone in which the project site is located. TAZ 667 is bounded by Market Street and Mission Street to the north and south and Sixth Street and Fifth Street to the east and west, with the exception of the Old US Mint Building parcel. The existing average daily VMT per capita for the various land uses proposed by the project and present in TAZ 667 is far less than the regional Bay Area averages.

TABLE 7: EXISTING VEHICLE MILES TRAVELED

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Threshold)	TAZ 667
Households (Residential)	17.2	14.6	1.9
Employment (Retail)	14.8	12.6	7.3
Notes: Source: SF Planning Department; Fehr & Peers, 2019			

The planning department uses the following quantitative thresholds of significance to determine whether the project would generate substantial additional VMT:

- For residential projects, if it exceeds the regional household VMT per capita minus 15 percent.
- For retail projects, if it exceeds the regional VMT per retail employee minus 15 percent.
- For mixed-use projects, evaluate each land use independently, per the thresholds of significance described above.

Since the proposed project includes residential land use with some retail land use, the mixed-use criteria would apply. As shown in Table 7, the existing average daily residential VMT per capita is 1.9 for TAZ 667, which is 89 percent below the existing regional average daily residential VMT per capita of 17.2. The existing average daily VMT per retail employee is 7.3 for TAZ 667, which is 51 percent below the regional average VMT per retail employee of 14.8. Given that the project site is located in an area where existing residential and retail VMT is more than 15 percent below the existing regional average, the proposed project would not cause substantial additional VMT. Impacts would be less than significant and mitigation measures are not required. This topic will not be discussed in the EIR.

In addition, as described in Section A, Project Description, the project would be subject to San Francisco Planning Code section 169, Transportation Demand Management program and would implement a number of measures designed to encourage the use of non-vehicle travel modes.

Impact TR-6: Operation of the proposed project would not result in a loading deficit. (*Less than Significant*)

COMMERCIAL LOADING

The estimated average and peak hour commercial vehicle loading demand for the proposed project is one space.⁴⁶ The project proposes to provide one off-street commercial loading space at street level in the garage and two service vehicle spaces in the basement. In addition to the proposed off-street loading zones, there is currently approximately 230 feet of on-street freight/delivery loading zone (yellow curb) along Stevenson Street and Jessie Street between Sixth Street and Fifth Street, with approximately 70 feet immediately adjacent to the proposed project's frontage. The 132 feet of yellow curb on Stevenson Street can accommodate up to 6 commercial loading vehicles. The 101 feet of yellow curb on Jessie Street can accommodate up to 4 commercial loading vehicles. With the proposed project, approximately 15 feet of the existing yellow loading zone would be converted to white passenger loading space or shifted slightly west. However, with the proposed project, on-street loading on Stevenson and Jessie streets would still total over 200 linear feet with approximately 50 feet immediately adjacent to the project's frontage. Existing and proposed curb designations are shown in Appendix B.

⁴⁶ Commercial vehicle loading encompasses freight and delivery service vehicles. Delivery service typically refers to pick-up trucks, light trucks or vans such as box trucks, moving trucks, etc. The larger end of the light truck vehicle type may occupy approximately 30-40 linear feet, which includes the space for loading and maneuvering. Large freight trucks refers to heavy trucks with a wheelbase length of 40 feet or more, whose total length may approach 65 feet, 14 feet in height and 8.5 feet in width.

In addition to there being sufficient on-street loading space, the proposed project would provide a centralized delivery room. A delivery room eliminates delays that might occur when couriers need to coordinate directly with residents and would reduce missed deliveries, which would help increase the efficiency of deliveries and reduce the duration of dwell times at the curb. Delivery vehicles may use either the provided off-street loading zone or on-street loading zones on either Stevenson Street or Jessie Street to access the building and the centralized delivery room.

Since the proposed project's off-street loading zones is expected to accommodate the peak hour loading demand and there are additional convenient on-street loading zones, the proposed project is not expected to create a loading deficit. Therefore, project-related impacts on freight loading would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

PASSENGER LOADING

The estimated average and peak hour passenger loading demand is 40 linear feet of white curb or two spaces. The project proposes to provide approximately 90 linear feet of non-continuous (an existing 11-foot driveway breaks up segments of 52 feet and 39 feet) white curb on the south side of Jessie Street immediately adjacent to the project frontage and 22 linear feet of white curb on the south side of Stevenson Street immediately adjacent to the project frontage. Additionally, there is approximately 95 linear feet of existing white curb on the south side of Jessie Street approximately 200 feet east of the project frontage currently used primarily for hotel drop-off and pick-up, which may be used as passenger loading for the proposed project.

In order to accommodate passenger loading on the south side of Jessie Street, the existing commercial loading zone (yellow curb) would need to be relocated west of the proposed project and existing parking would need to be converted to white curb passenger loading. Passengers would have to cross Jessie Street in order to access the project's residential lobby; however, due to the narrow alleyway width, clear sightlines, low vehicle volumes (104 during the p.m. peak hour under baseline plus project conditions), and low vehicle speeds on Jessie Street, it is anticipated this space would be convenient. In order to accommodate passenger loading on Stevenson Street, some existing parking would need to be converted to white curb. Passenger loading on Stevenson Street is proposed to be located near a pedestrian entrance to the proposed project and passengers using the white curb loading zone would not have to cross the street to access the site.

Since the proposed project's designated passenger loading zones are expected to accommodate the peak hour passenger loading demand and there is additional convenient on-street passenger loading zones, the proposed project is not expected to create a passenger loading deficit. Therefore, project-related impacts on passenger loading would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

2040 CUMULATIVE IMPACT ASSESSMENT

Transportation impacts are described below for a long-term cumulative (year 2040) with project scenario. The cumulative scenario includes relevant nearby plans and projects in addition to those included in the near-term baseline scenario. Specific projects and plans included in the cumulative scenario include: the Central SoMa Plan, the Eastern Neighborhoods Rezoning and Area Plans, the Hub and Civic Center Public Realm Plan, Muni Forward, and the Better Market Street Project.

Construction of the proposed project could overlap with construction of nearby cumulative development and transportation projects. For the purposes of the transportation analysis, the cumulative setting includes the development and streetscape or public realm improvement projects as listed above and in section B.2, Cumulative Project Setting.

Impact C-TR-1: The project, in combination with reasonably foreseeable future projects, would result in significant cumulative construction-related transportation impacts, but the project would not contribute considerably to those impacts. (*Less than Significant*)

Construction of the proposed project would occur over a period of approximately 36 months, from November 2020 to November 2023. Construction of the proposed project may overlap with the construction of other nearby projects, including 5M, the Sixth Street Pedestrian Safety Improvement Project, 950-974 Market Street, 1066 Market Street, Better Market Street, and/or, subsequent development projects proposed under the Central SoMa Plan Area.

The construction timeline of the Sixth Street Pedestrian Safety Improvement Project is approximately April 2020 through October 2021 (with paint and signage improvements beginning in September 2019), which if completed on schedule would not overlap with project construction. However, for purposes of this analysis, it is assumed that construction of the proposed project could potentially overlap with some Sixth Street Pedestrian Safety Improvement Project construction. The first phase of the 5M development is currently under construction and is anticipated to be complete by the end of 2021. Subsequent phase(s) will begin shortly afterwards with the project expected to be complete by the end of 2027. Therefore, there is potential for the construction of both the Sixth Street Pedestrian Safety Improvement Project and the 5M development to overlap with construction of the proposed project, but the construction staging for the 5M development and the 469 Stevenson Street Project would be in different areas. Coordination with these nearby projects, as required in the construction management plan, would limit disruptions to the project vicinity.

Both the Better Market Street EIR and the Central SoMa Plan EIR identified project-specific significant and unavoidable construction-related transportation impacts:

- The Better Market Street EIR identified significant and unavoidable construction-related impacts on emergency access, people bicycling, and transit routes on Market Street, cross streets, and nearby parallel streets.
- The Central SoMa Plan EIR identified significant and unavoidable with mitigation construction-related impacts on transportation, primarily due to concurrent construction of projects in close proximity to each other.

It is anticipated that the proposed project's primary construction-related impacts would be on Jessie Street and Stevenson Street. The project's construction is not expected to require a substantially extended duration or intense activity. None of the projects included in the cumulative scenario would include overlapping construction on Jessie Street or Stevenson Street. Given the scale and location of the proposed project in relation to other nearby projects, there is a potential for project construction to combine with construction of other projects and result in a temporary increase in traffic from on-road construction vehicles traveling on the same streets

(Sixth Street, Fifth Street, and Mission Street). This is considered a significant cumulative construction-related transportation impact.

The proposed project would be required to work with various city departments to develop detailed and coordinated construction logistics and contractor parking plans to address issues related to construction vehicle routing, traffic control, transit vehicles, and accessibility plans for people walking and biking adjacent to the construction area. While some construction activities require staging in the sidewalk or parking lane, most construction would be contained to the project site. The extent and duration of construction spillover, as well as the number of construction workers at the site, will be defined in the project's construction management plan.

Because the proposed project's construction would not overlap spatially with other cumulative projects' construction, and construction activities would be temporary and phased, would not involve a substantially intense activity, and conducted in accordance with city requirements, the proposed project, would not contribute considerably to cumulative construction-related transportation impacts. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-TR-2: The project, in combination with reasonably foreseeable future projects, would not create potentially hazardous conditions for people walking, bicycling, driving or public transit operations. (*Less than Significant*)

The future land use developments and proposed transportation network changes anticipated under cumulative conditions are not anticipated to result in substantial changes to traffic circulation that could lead to hazards for people walking, bicycling, driving, or riding transit. Under cumulative conditions, citywide growth would contribute to increased traffic volumes on streets surrounding the project site. Citywide changes to traffic volumes would not create new hazards by themselves. Plans such as the Central SoMa Plan and Better Market Street project would implement roadway changes near the proposed project that would reduce potentially hazardous conditions to people walking, bicycling, or driving, or public transit vehicles and no such impact were identified in those projects' EIRs. Therefore, the proposed project in combination with cumulative projects, would result in less than significant cumulative potentially hazardous conditions. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-TR-3: The project, in combination with reasonably foreseeable future projects, would not significantly interfere with accessibility. (*Less than Significant*)

Citywide growth would contribute to increasing the number of people walking, bicycling, driving, or riding transit on streets surrounding the project site under cumulative conditions. Cumulative transportation projects such as the streetscape improvement projects proposed under the Central SoMa Plan, Better Market Street Project, Fifth Street Improvement Project, and Vision Zero would improve accessibility for people walking and bicycling within a block of the project site. These projects would increase sidewalk widths, install new curb bulb-outs, and expand bicycle facilities. While the Central SoMa Plan EIR identified a significant impact on pedestrian crowding within crosswalks, the locations identified (Third/Mission, Fourth/Mission, Fourth/Townsend, Fourth/King) are all more than a block away and in the opposite direction of key walking

destinations from the proposed project site like Market Street and MUNI/BART stations. Residents of the proposed project may access services, such as retail stores located near the Fourth/Mission intersection. However, the proposed project's walking trips are unlikely to combine with walking trips generated by subsequent development projects under the Central SoMa Plan EIR. This is because while walking trips associated with the proposed residential uses on the project site are anticipated to primarily occur during the p.m. peak period, the Central SoMa Plan EIR found significant pedestrian overcrowding during the midday peak period. Thus, the proposed project would not combine with the Central SoMa Plan EIR to result in a significant accessibility impact on people walking.

The Central SoMa Plan EIR also identified a less than significant with mitigation impact on emergency vehicle access due to proposed street network changes and increases in vehicle traffic generated by development under the Central SoMa Plan. The proposed project would not involve changes to the street network or significant increases in vehicle traffic that would prevent the mitigation measure (consultation with emergency service providers and modification of street network design) from reducing any potential delays emergency vehicle access. The Better Streets Plan EIR did not identify a significant impact on emergency access. Thus, the proposed project would not combine with cumulative projects to result in a significant impact on emergency access.

Therefore, the proposed project, in combination with cumulative projects, would result in less than significant cumulative impacts to accessibility for people walking and people bicycling or inadequate emergency access. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-TR-4: The project, in combination with reasonably foreseeable future projects, would substantially delay public transit, but the project would not contribute considerably to this impact. (*Less than Significant*)

LOCAL TRANSIT

In general, transit service on Market Street and Mission Street are anticipated to improve under cumulative conditions with the addition of transit only lanes proposed by the Better Market Street project and Muni Forward improvements to Mission Street. However, both the Central SoMa Plan EIR and Better Market Street EIR identified significant impacts to local transit. The Better Market Street EIR identifies a significant cumulative transit delay impact to the 27 Bryant on Fifth Street (approximately 500 feet from the project site). Although Better Market Street Project would not generate any net new vehicle trips to the transportation network, some trips would be shifted to new routes, resulting in approximately 300 additional vehicles on southbound Fifth Street during the peak hour.

Unlike the Better Market Project, the Central SoMa Plan EIR is a program-level analysis focused on the indirect impacts on the physical environment resulting from subsequent development enabled by the Central SoMa Plan and the direct impacts associated with proposed street network changes. The Central SoMa Plan EIR does not analyze the specific environmental impacts of the subsequent development projects that could be enabled by the Plan as these subsequent projects are required to undergo their own environmental evaluation. The Central SoMa Plan EIR identifies that subsequent development enabled under the Central SoMa Plan could result in a

significant and unavoidable with mitigation transit delay impact to local routes with the plan area, specifically to Muni lines 8/8AX/8BX Bayshore, 10 Townsend, 14/14R Mission, 27 Bryant, 30 Stockton, 45 Union-Stockton, and 47 Van Ness. Of these, the 8/8AX/8BX Bayshore, 27 Bryant, 30 Stockton, and 45 Union-Stockton travel on Fifth Street. Given the reasonably foreseeable projects in the area and the analysis conducted for the Central SoMa Plan EIR, there is a significant cumulative public transit impact.

Although the Better Market Street and Central SoMa Plan EIRs identify impacts to transit, the 469 Stevenson Street Project is not anticipated to contribute considerably to any cumulative transit impact in the area for the following reasons:

- The project would add 28 additional vehicle trips to Fifth Street during the p.m. peak hour, representing less than 10 percent of vehicle volumes added to Fifth Street by changes stemming from the Better Market Street Project and would add fewer than one additional vehicle per minute to Fifth Street.
- The project would add 23 additional vehicle trips to Mission Street during the p.m. peak hour, approximately one percent of all vehicle traffic on Mission Street in the cumulative scenario. The additional level of traffic due to the proposed project would not be expected to contribute substantially to worsened traffic on these streets that have transit or substantially delay public transit.
- The majority of subsequent development associated with the Central SoMa Plan is concentrated south of Interstate-80, more than one half mile from the project sites. The vehicle trips associated with the 469 Stevenson Street Project are not anticipated to combine with other Central SoMa Plan projects in such a manner that would substantially affect transit operations. Therefore, the proposed project would not contribute considerably to the significant cumulative local transit delay impacts identified in the Central SoMa Plan EIR.

The proposed project would not contribute considerably to significant cumulative local transit impacts. No mitigation measures are required. This topic will not be discussed in the EIR.

REGIONAL TRANSIT

The Better Market Street EIR did not identify a significant and unavoidable cumulative regional transit impact; however, the Central SoMa Plan EIR identifies a significant and unavoidable with mitigation impact on transit delays to regional routes, specifically to Golden Gate Transit and SamTrans routes that run on Mission Street, Howard Street, Folsom Street, and Harrison Street. With the exception of Mission Street, these streets are more than a block away from the proposed project, and project-generated vehicle trips would not contribute considerably to regional transit delays. As described above, the vehicle trips associated with the proposed project are approximately one percent of cumulative volumes on Mission Street. The additional level of traffic due to the proposed project would not be expected to contribute substantially to worsened traffic

on these streets that have regional transit or substantially delay regional public transit. Therefore, the proposed project would not contribute considerably to the significant cumulative regional transit delay impact identified in the Central SoMa Plan EIR.⁴⁷

The proposed project would not contribute considerably to significant cumulative regional transit impacts. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-TR-5: The project, in combination with reasonably foreseeable future projects, would not cause substantial additional VMT or substantially induce automobile travel. (*Less than Significant*)

VMT by its nature is largely a cumulative impact. The number and distance of vehicle trips associated with cumulative projects might contribute to the secondary physical environmental impacts associated with VMT. It is likely that no single project by itself would be sufficient in size to prevent the region or state in meeting its VMT reduction goals. Instead, a project's individual VMT contributes to cumulative VMT impacts.

The department uses existing plus project-level thresholds of significance based on levels at which the department does not anticipate new projects to conflict with state and regional long-term greenhouse gas emission reduction targets and statewide VMT per capita reduction targets.

Therefore, the department uses a map-based screening criterion to identify types and locations of land use projects that would not exceed the same quantitative thresholds of significance described under existing plus project conditions. However, under cumulative conditions, the analysis uses modeling for the year 2040 to present VMT for residential, office, and retail uses in San Francisco and the region. The department uses that data and associated maps to determine whether a project site's location is below the aforementioned VMT quantitative screening criteria.

The proposed project would not exceed the cumulative-level projected 2040 screen criteria for VMT. As shown in Table 8, projected 2040 average daily residential VMT per capita for TAZ 667 (the TAZ where the proposed project is located) is 1.6, which is approximately 90 percent below the projected 2040 regional average daily VMT per capita of 16.1. The projected 2040 average daily VMT per retail employee is 7.1, which is approximately 51 percent below the projected 2040 regional average daily VMT per capita of 14.6. Therefore, the proposed project's residential and retail uses would not combine with cumulative development projects to create or contribute to any substantial cumulative increase in VMT, and impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

⁴⁷ While impacts on transit capacity utilization are no longer being considered under the updated transportation guidelines, the Central SoMa Plan EIR also identifies a significant and unavoidable with mitigation impact on regional transit capacity utilization on the East Bay regional screenline (BART). As previously described, the proposed project would contribute 85 total transit trips during the p.m. peak hour, less than 5 percent of the 1,910 regional transit trips generated by the Central SoMa Plan.

TABLE 8: CUMULATIVE 2040 VEHICLE MILES TRAVELED

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Threshold)	TAZ 667
Households (Residential)	16.1	13.7	1.6
Employment (Retail)	14.6	12.4	7.1
Notes: Source: SF Planning Department; Fehr & Peers, 2019			

Impact C-TR-6: The project, in combination with reasonably foreseeable future projects, would result in significant cumulative impacts to loading, but the project would not contribute considerably to this impact. (*Less than Significant*)

Under cumulative conditions, the Better Market Street project would change loading conditions on Market Street and add additional loading on some streets crossing Market Street. This would not affect the commercial or passenger loading for the proposed project, which would occur off-street within the designated freight loading zone or service vehicle loading spaces, directly adjacent to the project site on Stevenson Street in the designated passenger loading zone, or in the yellow curb or white curb loading zones on the south side of Jessie Street across from the project site.

The Central SoMa Plan EIR identifies a significant cumulative impact to loading because providing replacement passenger loading/unloading zones of similar length to that of existing conditions cannot be assured. Although the project is adjacent to the Central SoMa Plan Area, it is possible, although unlikely, that subsequent development projects in the Central SoMa Plan could combine with this project to result in localized loading impacts near the project site. The project site is adjacent to a portion of the Central SoMa Plan Area that was rezoned from a Neighborhood Commercial Transit (NCT) district to a SoMa Neighborhood Commercial Transit (SoMa NCT) district. This is considered a significant cumulative loading impact. However, the project meets its anticipated commercial and passenger loading needs, and therefore, would not contribute considerably to this significant cumulative impact. No mitigation measures are required. This topic will not be discussed in the EIR.

This page left intentionally blank.

E.6 Noise

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
6. NOISE. Would the project result in the:					
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is not located in the vicinity of or within an area covered by an airport land use plan, within two miles of a public airport or a public use airport, or in the vicinity of a private airstrip. Therefore, topic E.5(c) is not applicable to the proposed project.

NOISE

Noise is generally defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, hotels, and residences are considered to be more sensitive to noise intrusion than are commercial or industrial activities. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called A-weighting, written as dB(A) and referred to as A-weighted decibels. There is a strong correlation between A-weighted sound levels and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.

With respect to how humans perceive and react to changes in noise levels, a 1dBA increase is imperceptible, a 3 dB(A) increase is barely perceptible, a 5 dB(A) increase is clearly noticeable, and a 10 dB(A) increase is subjectively perceived as approximately twice as loud.⁴⁸ These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broadband noise and to changes in levels of a given noise source. These statistical indicators are thought to be most applicable to noise levels in the range of 50 to 70 dB(A), as this is the usual range of voice and interior noise levels.

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one source produces a sound pressure level of 70 dB(A), two identical sources would combine to produce 73 dB(A). The combined sound level of any number of sources can be determined using decibel addition.

NOISE-SENSITIVE RECEPTORS

Noise-sensitive receptors around the project site include The Wilson apartments at 973 Market Street, the Hampton Inn San Francisco Downtown at the corner of Mint Street and Mission Street, and various hotels and residential buildings near the corner of Sixth Street and Stevenson Street, including the Desmond Hotel at 42 Sixth Street, the Seneca Hotel at 34 Sixth Street, the Haveli Hotel at 37 Sixth Street, the Whitaker Hotel at 45 Sixth Street, the Hillsdale at 51 Sixth Street, the Oak Tree Hotel at 45 Sixth Street, the Winsor Hotel at 20 Sixth Street, and various residential spaces above 87-99 Sixth Street. The noise-sensitive receptors within 300 feet of the 469 Stevenson project site are shown in Figure 21.

VIBRATION

Vibration is like noise such that noise involves a source, a transmission path, and a receptor. While related to noise, vibration differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system that is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV.

⁴⁸ Egan, David M. 2007. Architectural Acoustics. J. Ross Pub., Pub 2007.



- | | | | |
|---|--|--|---------------------------------------|
| 1. The Wilson Apartments at 973 Market Street | 6. The Whitaker Hotel | 11. 460 Jessie Street | 16. 968 Mission Street |
| 2. Hampton Inn San Francisco Downtown | 7. The Hillside Hotel | 12. 65-83 Sixth Street | 17. 471 Jessie Street |
| 3. Desmond Hotel | 8. Oak Tree Hotel | 13. 986 Mission Street/481 Jessie Street | 18. 956-960 Mission Street |
| 4. Seneca Hotel | 9. Winsor Hotel | 14. 980-984 Mission Street/479 Jessie Street | 19. 955 Market Street/ 1 Sixth Street |
| 5. Haveli Hotel | 10. Residential Above 87-89 Sixth Street | 15. 972- 976 Mission Street | 20. 979-989 Market Street |

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

469 Stevenson Street Project

Case No. 2017-014833ENV.

Figure 21: Noise- and Vibration-Sensitive Receptors within 300 feet of Project Site

This page left intentionally blank.

VIBRATION-SENSITIVE RECEPTORS

Historic buildings are more susceptible to vibration as compared to buildings with modern construction. Historic buildings adjacent to the project site are shown in Table 3, Contributors and Non-Contributors within Historic/Conservation Districts adjacent to the Project Site of this initial study. All vibration-sensitive buildings within 300 feet of the project site are shown in Figure 21 and distinguished from noise sensitive receptors, as shown in the legend.

AMBIENT NOISE LEVELS

Areas which are not urbanized are relatively quiet, while areas which are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities. Ambient noise levels can also affect the perceived desirability or livability of a development.

A noise survey was conducted between Thursday, March 14 and Sunday, March 17, 2019 to establish the existing baseline noise conditions near the project site. The existing ambient noise levels in the area ranged between 67.0 to 70.5 dB(A) Ldn⁴⁹ at the measurement location on the roof of the adjacent 989 Market Building (about 95 feet above the local ground) and between 64.5 to 68.0 dB(A) Ldn at ground level along Jessie Street. The maximum one-hour Leq⁵⁰ noise level measured during the anticipated hours of operation of the proposed retail uses was 65.9 dB(A).

The main source of noise at the site is the steam generation plant on the adjacent Clearway Energy property. The noise from the steam generation plant is a constant, tonal noise produced from the mechanical equipment outside the building and the operation of the facility. Other sources of noise at the site include traffic on Sixth Street, very sparse traffic on Stevenson Street and Jessie Street, sidewalk activity, parking lot activity, aircraft fly overs, activity from businesses (back-up beepers, etc.), and noise from distant construction sites. The traffic in the area is comprised of vehicles, medium and large trucks, motorcycles, Muni buses and streetcars, construction vehicles, and emergency vehicles. The project site is well-shielded from traffic noise along Market Street and Fifth Street.

This neighborhood of the city contains several entertainment facilities which are in operation for weekly scheduled events or for special events. Noise generated by the operation of the facilities are part of the existing ambient noise environment. Noise-generating uses around the project include places used for scheduled events, such as The Warfield, Piano Fight, Pandora Karaoke & Bar, OMG Bar and Nightclub, Mezzanine, Exit Stage Left, and the SHN Golden Gate Theater, and spaces uses for special events, such as Club Six, and the SF Mint.

The dates of the noise survey included the Hello Dolly show at the SHN Golden Gate Theater (March 16 and March 17), The Nils Frahm concert (March 15) and the Graveyard and Uncle Acid & The Deadbeats concert (March 16) at the Warfield, The Dirtybird Quarterly event at Mezzanine

⁴⁹ Ldn: The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

⁵⁰ The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.

(March 15), and typical weekend activity at OMG Bar & Nightclub. Ambient noise levels measured during the early morning hours, or during the anticipated operational hours of the noise-generating entertainment uses ranged between 70.2-73.4 dB(C).⁵¹

ANALYTIC METHODOLOGY

In accordance with the requirements of CEQA, the noise analysis evaluates the project's noise sources to determine the impact of the proposed project on the existing ambient noise environment. This analysis does not analyze the impact of the existing ambient noise environment on the proposed project's residents. However, as discussed in the Noise Technical Memorandum⁵² prepared for the proposed project, existing building code regulations are in place to ensure adequate interior noise levels are achieved for a proposed project. The Noise Technical Memorandum is provided in Appendix A of this initial study.

Results from the long-term site measurements were used to provide baseline noise conditions at nearby sensitive receptors and within the project site vicinity. For the purpose of this analysis, potential sensitive receptors were determined by reviewing current aerial photography and by walking the project site.

Construction Noise

Article 29 of the San Francisco Police Code regulates noise. Section 2907 of article 29 provides the following limitations for construction equipment:

“(a) Except as provided for in Subsections (b), (c), and (d) hereof, it shall be unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance.”

However, the police code does not specify quantitative noise limits for impact equipment or combined noise impacts from the simultaneous operation of multiple pieces of construction equipment. Therefore, the quantitative evaluation of daytime construction noise effects is based on criteria in the Federal Transit Administration (FTA) guidelines for residential land uses which is 90 dBA Leq.⁵³ The planning department also evaluates whether construction noise would result in an increase of 10 dBA over existing noise levels (“Ambient + 10 dBA”) at sensitive receptors, which generally represents a perceived doubling of loudness. The quantitative analysis typically evaluates the noise levels from the simultaneous operation of multiple pieces of construction

⁵¹ dB(C): The sound pressure level in decibels as measured using the C- weighting filter network. The C-weighting is very close to an unweighted or flat response. C-weighting is only used in special cases when low-frequency noise is of particular importance. A comparison of measured A- and C-weighted level gives an indication of low frequency content.

⁵² “Noise Technical Memorandum for the 469 Stevenson Street Project, Stantec, August 2, 2019.

⁵³ Federal Transit Administration (FTA).2018. Transit Noise and Vibration Impact Assessment Manual.

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed August 29, 2019.

equipment. The quantitative criteria above are only part of the evaluation of construction noise. The evaluation also considers the duration and intensity of any quantitative noise exceedance. In addition, nighttime construction noise is assessed to determine whether sleep disturbance would occur (if construction noise would exceed 45 dBA at residential interiors, assuming windows closed, for prolonged periods of time). The nighttime construction noise analysis also considers the frequency and duration of nighttime construction activities. All of the above factors are evaluated to determine whether a significant construction noise impact would occur.

The Federal Highway Administration Roadway Construction Noise Model (RCNM) was used to determine noise generated from construction activities. The RCNM is used as the Federal Highway Administration's national standard for predicting construction noise. The RCNM analysis includes the calculation of noise levels (L_{max} ⁵⁴ and L_{eq}) at incremental distances for a variety of construction equipment. The spreadsheet inputs include acoustical use factors, L_{max} values, and L_{eq} values at various distances depending on the ambient noise measurement location. Construction noise levels were calculated for each phase of construction based on the equipment list provided by the project sponsor. Given the limited extent and duration of nighttime construction activities, the potential for nighttime construction noise to result in sleep disturbance is analyzed qualitatively.

Construction Vibration

Vibration from construction equipment is analyzed at the surrounding buildings and compared to the applicable Caltrans building damage criteria to determine whether construction activities would generate vibration at levels that could result in building damage. Given the limited extent and duration of nighttime construction activities, the potential for vibration effects to result in sleep disturbance are analyzed qualitatively.

Operational Noise

Project-generated traffic would result in a significant noise impact if the proposed project increases the ambient noise levels by 5 dBA L_{dn} where noise levels are within the city's "Satisfactory" category per the general plan's land use compatibility chart for community noise, which is 60 dBA L_{dn} . If existing or resulting with project noise levels are above the "Satisfactory" category, project-generated traffic noise that results in an increase of 3 dBA L_{dn} would be considered significant. Because the ambient noise levels near the project site exceed 60 dBA L_{dn} , the significance threshold used to analyze project-generated traffic noise for this project is 3 dBA.

Anticipated noise increases from future project-related traffic were estimated using predicted vehicle traffic generated from the 469 Stevenson project as detailed in the traffic analysis prepared by Fehr & Peers.

⁵⁴ The maximum sound level measured during the measurement period.

In addition, the proposed project would require one diesel emergency backup generator, required by the building code to ensure life safety requirements are met. Given the limited operation, noise from the generator is analyzed qualitatively for the potential to increase ambient noise levels.

Noise from the proposed project's mechanical and HVAC systems would operate regularly and are therefore analyzed for compliance with sections 2909(a) and (d) of the noise ordinance. Section 2909 "Noise Limits" states the following:

"(a) Residential Property Noise Limits.

- (1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.
- (d) Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed."

The proposed project would not include sources of vibration during operations. Therefore, no operational vibration assessment is required.

IMPACT ANALYSIS

The following impact analysis is based on information provided in the Noise Technical Memorandum⁵⁵ (included in Appendix A) prepared for the proposed project.

CONSTRUCTION

Impact NO-1: Construction of the proposed project would result in a temporary or periodic increase in ambient noise levels. (*Less than Significant with Mitigation*)

Daytime Construction Noise

Construction activities associated with the proposed project would include site preparation and demolition, excavation and shoring, foundation and below grade work, building construction, exterior finishing, and sitework/paving. Each construction stage has its own mix of equipment and, consequently, its own noise characteristics. These various construction operations would

⁵⁵ "Noise Technical Memorandum for the 469 Stevenson Street Project, Stantec, August 2, 2019.

change the character of the noise generated at the project site and, therefore, the ambient noise level as construction progresses. The loudest phases of construction include excavation and shoring and building construction, as the noisiest construction equipment is earthmoving and grading equipment and concrete/industrial saws. Table 9 lists types of construction equipment that may be used throughout construction and the maximum and average noise level as measured at 20 feet from the operating equipment. The 20-foot distance represents the approximate distance between the project property line and the closest noise-sensitive receptors at 35 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47 Sixth Street, which are hotels and residential over retail buildings. The 20-foot distance represents a worst-case assessment of noise impacts on nearby receptors because it assumes the equipment operates at the property line closest to the sensitive receptor. The project site is approximately 170 feet wide along its Jesse and Stevenson street frontages and therefore equipment will often be operating at distances greater than 20-feet from the closest sensitive receptors.

TABLE 9: SUMMARY OF CONSTRUCTION EQUIPMENT NOISE LEVELS AT THE NEAREST NOISE-SENSITIVE RECEPTOR

Equipment	Distance to Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor		
		Lmax, dB(A)	Acoustical Use Factor (%)	Leq, dB(A)
Backhoe	20 feet	85.5	40	81.5
Crane	20 feet	88.5	16	80.6
Concrete Mixer Truck	20 feet	86.8	40	82.8
Concrete Saw	20 feet	97.5	20	90.5
Compressor (air) ¹	20 feet	85.6	40	81.6
Excavator	20 feet	88.7	40	84.7
Front End Loader ²	20 feet	87.1	40	83.1
Flat Bed Truck	20 feet	82.2	40	78.2
Grader	20 feet	93.0	40	89.0
Paver	20 feet	85.2	50	82.2
Welder / Torch	20 feet	82.0	40	78.0
Tractor ³	20 feet	92.0	40	88.0
Man Lift ⁴	20 feet	82.7	20	75.7
Drill Rig	20 feet	87.1	20	80.1
Dump Truck	20 feet	84.4	40	80.4

Equipment	Distance to Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor		
		Lmax, dB(A)	Acoustical Use Factor (%)	Leq, dB(A)
Pumps	20 feet	88.9	50	85.9
Source: Stantec 2019, Federal Highway Administration Roadway Construction Noise Model Version 1.1, 2008 Notes: <ol style="list-style-type: none"> Used to approximate noise from a pressure washer for this project. Used to approximate noise from the skid steer loader for this project. Used to approximate noise from the forklift and rough-terrain forklift for this project. Used to approximate noise from the aerial lift and scissor lift for this project. 				

Construction of the entire project would be conducted in sequential phases and each phase would use different pieces of construction equipment. The noise-producing equipment for each construction phase as defined by the project sponsor are shown in Table 10.

TABLE 10: CONSTRUCTION PHASES AND EQUIPMENT

Construction Phase	Equipment
Site Preparation / Demolition	Dump Truck (2) Excavator (1)
Excavation and Shoring	Bore / Drill Rigs (1) Dumper / Tenders (1) Excavators (1) Skid Steer Loaders (1) Tractors / Loaders / Backhoes (1) Aerial Lift (1) Dump Truck (2)
Foundation and Below Grade Construction	Concrete Pump (1) Manlift (1) Dump Truck (1)
Building Construction	Aerial Lifts (1) Cranes (1) Forklift (1) Rough Terrain Forklifts (1) Electric-Powered Welders (1) Concrete / Industrial Saws (2) Dump Truck (1) Manlift (1) Scissor Lifts (3) Welders (1)

Construction Phase	Equipment
Exterior Finishing	Air Compressors (1) Forklifts (1) Manlift (1) Welders (1)
Sitework / Paving	Cement and Mortar Mixers (1) Pavers (1) Paving Equipment (1) Pressure Washer (1)

A worst-case condition for construction activity would assume all noise-generating equipment for each construction phase were operating at the same time and at the same distance away from the closest noise-sensitive receptor. Using this assumption, the RCNM program was used to calculate the following combined Leq and Lmax noise levels from each construction phase as shown in Table 11.

TABLE 11: CALCULATED NOISE LEVEL FROM EACH CONSTRUCTION PHASE

Construction Stage	Distance to Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor	
		Lmax, dB(A)	Leq, dB(A)
Site Preparation / Demolition	20 feet	91.1 dB(A)	87.1 dB(A)
Excavation and Shoring	20 feet	95.0 dB(A)	90.5 dB(A)
Foundation and Below Grade Construction	20 feet	91.2 dB(A)	85.0 dB(A)
Building Construction	20 feet	102.2 dB(A)	96.1 dB(A)
Exterior Finishing	20 feet	93.6 dB(A)	89.4 dB(A)
Sitework / Paving	20 feet	91.8 dB(A)	88.2 dB(A)

Construction noise during the excavation and shoring phase and the building construction phase are expected to exceed the FTA 90 dB(A) Leq guideline at the closest noise-sensitive receptors. The excavation and shoring phase is expected to take approximately two months to complete. The building construction phase is expected to take a total of about 29 months to complete. The loudest part of the building construction phase is anticipated to be during the beginning of the phase when the concrete/industrial saws would be used. The building construction phase, the exterior finishing phase, and the sitework/paving phase will all run concurrently.

Because the ambient daytime noise level in the project vicinity is approximately 70 dBA, noise levels from all phases of construction are expected to be at least 10 dB(A) above the ambient noise level at the closest sensitive receptors. As discussed previously, a 10 dBA increase in noise level is perceived as a doubling of loudness.

The entire construction process is expected to take approximately 36 months to complete. Therefore, noise sensitive receptors would be potentially exposed to noise levels at least 10 dBA above the ambient for the entire duration of construction. However, noise levels would fluctuate throughout the day depending upon the specific equipment being used at any one time. While the construction activity will extend over 36 months, the use of the most noise producing equipment, such as bulldozers, graders, and concrete/industrial saws would be limited to the excavation/shoring phase and the first part of the building construction phase. Given that construction activities would increase ambient noise levels by at least 10 dBA for the entire duration of construction and would be approximately 20 dBA above ambient noise levels for 36 months, construction noise impacts would be considered significant.

Nighttime Construction Noise

Most construction would occur during daytime hours, but some nighttime construction may occur. During the total 36-month construction phase, nighttime construction work may be required on up to five (5) nights and would include the following activities:

1. Erection and dismantling of the tower crane;
2. Miscellaneous utility work;
3. Fire alarm testing; and
4. Concrete pour for the mat slab foundation

This required nighttime work would occur at different times throughout the 36-month construction period and not for five (5) sequential nights. Therefore, given the duration of nighttime work and that nighttime work would not occur sequentially, it is not expected that nighttime construction work would result in sleep disturbance for a substantial period of time and nighttime construction impacts would be considered less than significant.

Mitigation Measure M-NO-1: Construction Noise has been identified to minimize construction-related noise effects due to daytime construction activities.

MITIGATION MEASURE

Mitigation Measure M-NO-1: Construction Noise

The project sponsor shall develop site-specific noise attenuation measures under the supervision of a qualified acoustical consultant. At the end of the design phase of this project and prior to commencing construction, the project sponsor shall submit a noise attenuation plan to the San Francisco Planning Department and Department of Building Inspection to ensure maximum feasible noise attenuation will be achieved. The noise attenuation plan shall reduce construction noise to the degree feasible with a goal of reducing construction noise levels at adjacent noise sensitive receptors (e.g., residential, hotel, hospital, convalescent home, school, and church uses) so that noise levels do not exceed 90 dBA and 10 dBA above ambient daytime noise levels. The project sponsor shall include noise attenuation measures in

specifications provided to the general contractor and any sub-contractors. Noise attenuation measures shall, at minimum, include the following:

- Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds), wherever feasible.
- Require the general contractor to perform all work in a manner that minimizes noise to the extent feasible; use equipment with effective mufflers; undertake the noisiest activities during times of least disturbance to surrounding residents and occupants.
- Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.
- Require the general contractor to erect temporary plywood noise barriers (at least 0.5-inch-thick) around stationary noise sources and/or the construction site, particularly where a noise source or the site adjoins noise-sensitive uses. The barriers shall be high enough to block the line of sight from the dominant construction noise source to the closest noise-sensitive receptors. Depending on factors such as barrier height, barrier extent, and distance between the barrier and the noise-producing equipment or activity, such barriers may reduce construction noise by 3–15 dBA at the locations of nearby noise-sensitive receptors.
- Require the general contractor to use noise control blankets on a building structure as the building is erected to reduce noise emission from the site.
- Require the general contractor to line or cover hoppers, storage bins, and chutes with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Unless safety provisions require otherwise, require the general contractor to adjust audible backup alarms downward in sound level while still maintaining an adequate signal-to-noise ratio for alarm effectiveness. Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed to reduce reliance on high-amplitude sonic alarms/beeps.
- Require the general contractor to place stationary noise sources, such as generators and air compressors, on the power station side of the project site, as far away from nearby noise-sensitive receptors as possible. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.
- Require the general contractor to place non-noise-producing mobile equipment, such as trailers, in the direct sound pathways between suspected major noise-producing sources and noise-sensitive receptors.

- Under the supervision of a qualified acoustical consultant, the project sponsor shall monitor the effectiveness of noise attenuation measures by taking noise measurements as needed.
- Prior to the issuance of a building permit, along with the submission of construction documents, the project sponsor shall submit to the planning department and building department a list of measures that shall be implemented and that shall respond to and track complaints pertaining to construction noise. These measures shall include:
 1. post signs onsite pertaining to permitted construction days and hours;
 2. a procedure and phone numbers for notifying the building department and the San Francisco Police Department (during regular construction hours and off-hours). This telephone number shall be maintained until the proposed project is ready for occupancy;
 3. a sign posted onsite describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction;
 4. designation of an onsite construction complaint and enforcement manager for the project who shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints.
 5. notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating anticipated noise levels of 90 dBA or greater) about the estimated duration of the activity.

Significance after Mitigation: Mitigation Measure M-NO-1 would reduce the daytime construction noise levels at nearby noise sensitive receptors. A reduction in construction noise levels would be achieved by locating stationary noise-producing equipment as far away from the noise-sensitive receptors on Sixth Street as possible. In addition, Mitigation Measure M-NO-1 would require the project sponsor and their construction contractors to use noise attenuation barriers and/or blankets and utilize blockades from construction trailers as much as possible, and all equipment would be attenuated with mufflers as much as possible. Although construction noise may at times exceed 10 dBA above the ambient or 90 dBA at sensitive receptor locations even with mitigation, this mitigation measure would substantially reduce the intensity of construction noise and the duration of construction noise that exceed 10 dBA above the ambient noise levels or 90 dBA at noise sensitive receptors. Furthermore, construction noise levels would be temporary and would not persist upon completion of construction activities. Individual pieces of construction equipment (apart from impact equipment) would also be required to comply with the noise limits in article 29 of the police code. Thus, with implementation of Mitigation Measure M-NO-1, construction noise impacts would be less than significant, and this topic will not be discussed in the EIR.

Impact NO-2: Construction of the proposed project would not generate excessive ground-borne vibration or ground-borne noise. (*Less than Significant*)

Operation of heavy construction equipment, particularly pile driving and other impact devices such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the PPV.

This impact analysis evaluates the potential for construction activities that generate vibration to result in sleep disturbance or damage to adjacent buildings or structures.

Sleep Disturbance from Vibration

As discussed above in Impact NO-1, nighttime construction work would be limited to five (5) total nights over the entire 36-month construction period. It is not anticipated that nighttime construction work would require vibration generating equipment. Therefore, construction activities are not expected to result in vibration during nighttime hours that would be perceptible and thereby result in sleep disturbance.

Building Damage Assessment

Table 12 summarizes typical vibration levels generated by construction equipment that would be used by the proposed project.

TABLE 12: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Reference PPV at 25 Feet	Estimated PPV at 50 Feet
Large bulldozer ¹	0.089	0.031
Caisson drilling ²	0.089	0.031
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001
Source: Federal Transit Administration 2018		
Notes:		
1. Used to approximate vibration from a large tractor, backhoe, and loader for this project		

Equipment	Reference PPV at 25 Feet	Estimated PPV at 50 Feet
2. Used to approximate vibration from a drill rig for this project.		

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions.⁵⁶ PPVref is the reference PPV from Table 12.

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

Table 13 summarizes the vibration damage criteria suggested by Caltrans.⁵⁷

TABLE 13: CALTRANS VIBRATION DAMAGE CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structure	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Source: California Department of Transportation 2004		

During construction of the proposed project, vibration-generating equipment may be used as close as 20 feet from the nearest vibration-sensitive buildings along Sixth Street. Also, older and historic buildings can be damaged by excessive vibration associated with construction activities.

⁵⁶ Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed August 29, 2019.

⁵⁷ California Department of Transportation. 2004. Transportation and Construction-Induced Vibration Guidance Manual. 2004. <http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf>.

The properties nearest to the project site that are most susceptible to vibration their distance to the project site, date of construction and construction type, and the applicable Caltrans damage criteria for each building are presented in Table 14. The proposed construction equipment that would generate vibration was analyzed using the vibration equation referenced above to determine construction vibration levels at nearby buildings. The results of this analysis are also provided in Table 14 along with an indication of whether construction activities would result in vibration at levels that exceed the Caltrans building damage criteria.

TABLE 14: VIBRATION-SENSITIVE BUILDINGS, EXPECTED CONSTRUCTION VIBRATION LEVELS AT NEARBY PROPERTIES, AND CALTRANS BUILDING DAMAGE CRITERIA

Vibration-Sensitive Buildings	Date of Construction / Caltrans Construction Type	Caltrans Building Damage Criteria	Distance between Vibration Sensitive Building and Project Site	Calculated Maximum PPV at Property	Exceeds Criteria?
35-37 Sixth Street	1908 - Historic and Some Old Buildings	0.25	20 feet	0.12	No
39-41 Sixth Street	1906 - Historic and Some Old Buildings	0.25	20 feet	0.12	No
43-45 Sixth Street	1907 - Historic and Some Old Buildings	0.25	20 feet	0.12	No
47-55 Sixth Street	1912 - Historic and Some Old Buildings	0.25	20 feet	0.12	No
65-83 Sixth Street	1913 - Historic and Some Old Buildings	0.25	52 feet	0.03	No
Clearway Energy Thermal Power Station (460 Jessie Street)	Unknown - Historic and Some Old Buildings	0.25	40 feet	0.04	No
986 Mission Street / 481 Jessie Street	1922 - Historic and Some Old Buildings	0.25	42 feet	0.04	No
972-976 Mission Street	1925 - Historic and Some Old Buildings	0.25	42 feet	0.04	No
968 Mission Street	1930 - Historic and Some Old Buildings	0.25	42 feet	0.04	No
471 Jessie Street	1912 - Historic and Some Old Buildings	0.25	42 feet	0.04	No
956-960 Mission Street	1910 - Historic and Some Old Buildings	0.25	51 feet	0.03	No

Vibration-Sensitive Buildings	Date of Construction / Caltrans Construction Type	Caltrans Building Damage Criteria	Distance between Vibration Sensitive Building and Project Site	Calculated Maximum PPV at Property	Exceeds Criteria?
995 Market Street / 1 Sixth Street	1908 - Historic and Some Old Buildings	0.25	38 feet	0.05	No
979-989 Market Street	1907 - Historic and Some Old Buildings	0.25	22 feet	0.11	No
973 Market Street	1904 - Historic and Some Old Buildings	0.25	22 feet	0.11	No
980-984 Mission Street/ 479 Jessie Street	1922 - Historic and Some Old Buildings	0.25	42 feet	0.04	No

As shown in Table 14, construction equipment would not generate vibration levels that exceed the building damage criteria. Impacts from construction vibration to adjacent buildings would be less than significant. No mitigation is required. This topic will not be discussed in the EIR.

OPERATIONS

The proposed project would not include sources of vibration during operations. Therefore, no operational vibration assessment is required.

Impact NO-2: The proposed project would generate noise levels in excess of standards established in the local general plan or noise ordinance and could result in a substantial permanent increase in ambient noise levels in the project vicinity. (*Less than Significant with Mitigation*)

Traffic Noise

To estimate future noise levels due to traffic added from the project, peak hour traffic volumes (with and without the project) were used to determine the percent increase of traffic on the roads adjacent to the project site. The project is expected to minimally increase traffic volumes along Sixth Street (approximately 1 percent increase), and Fifth Street (approximately 2 percent increase). Project-generated traffic would increase noise on these streets by less than 1 dB(A). The proposed project is not expected to increase traffic volume along Market Street. Peak traffic volumes are expected to increase approximately 41 percent along Stevenson Street between Fifth and Sixth streets with implementation of the project. Traffic increases of 41 percent only raise noise levels approximately 1.6 dB(A), which is imperceptible. As stated above, traffic noise increases of less than 3 dBA are barely perceptible to people, while a 5 dBA increase is readily noticeable. In areas where the existing or existing plus project noise environmental is conditionally acceptable or normally unacceptable per the general plan land use compatibility chart, any noise increase greater than 3 dBA is considered a significant noise impact. As project-generated traffic

would increase noise on adjacent roadways by a maximum of 1 dBA, permanent noise increases due to project-related traffic would be less than significant.

Project Fixed Noise Source Impacts

HVAC and Mechanical Systems Exterior Noise

Per San Francisco Police Code section 2909(a) residential properties may not produce a noise level more than 5 dB(A) above the ambient noise level at any point outside of the property plane. Typical residential and commercial building construction would involve new rooftop mechanical equipment, such as air handling units, condensing units, make-up air units, and exhaust fans. This equipment would generate noise that would radiate to neighboring properties.

Noise from HVAC equipment can vary greatly, depending on the size of the equipment and the type of equipment used. The project sponsor has verified that water-source heat pumps are planned for the residential units and the main pieces of mechanical equipment would be located on the roof.⁵⁸ While the project sponsor has not selected the exact mechanical equipment to be installed on the project site, the following assumptions were used in the exterior analysis of the mechanical equipment based on HVAC equipment similar to standard package units installed on buildings similar to the proposed project:

- A standard HVAC unit would produce sound pressure levels in the range of 70 to 75 dBA at 50 feet.⁵⁹
- The mechanical equipment was assumed to be centrally located in the mechanical area on the roof.
- The mechanical area is visually blocked from the surrounding buildings by a 9-foot, 3 inch tall screen. Even though there is a screen, effects of the screen were not considered in the analysis to meet the requirements of the San Francisco Police Code section 2909(a) because this code requirement is a “property plane” requirement. This means the noise level requirements listed in the code must be met at an infinite vertical plane as defined by the subject project’s property line. Therefore, this analysis is conducted just above the screen during nighttime hours to simulate a worst-case scenario.

Using the sound pressure levels and the analysis assumptions listed above, the results of the noise level from exterior mechanical systems at the property plane are as follows:

⁵⁸ Lehman, Victoria. 2019 Personal Communication email. August 19.

⁵⁹ Hoover and Keith, Noise Control for Buildings, Manufacturing Plants, Equipment, and Products, 2000, Houston, TX.

TABLE 15: CALCULATED ROOFTOP MECHANICAL EQUIPMENT NOISE LEVELS AT THE PROJECT PROPERTY PLANES

Property Plane	Nighttime Ambient Noise Level	2909(a) Noise Limit (Ambient + 5 dB(A))	Distance between Mechanical Area and Property Plane	Estimated Noise Level at Property Plane	Exceeds 2909(a) Noise Limit?
Stevenson Street	57.5 dB(A)	62.5 dB(A)	77'-0"	74.2 dB(A)	Yes
Jessie Street	55.0 dB(A)	60.0 dB(A)	37'-0"	80.5 dB(A)	Yes
Western property plane (near Sixth Street)	55.0 dB(A)	60.0 dB(A)	57'-10"	76.7 dB(A)	Yes
Eastern property plane (near Fifth Street)	57.5 dB(A)	62.5 dB(A)	66'-1"	75.0 dB(A)	Yes

As shown in Table 15, the proposed project's rooftop HVAC and mechanical equipment would exceed the property plane noise requirements in section 2909(a) of the police code and would therefore result in a substantial increase in ambient noise levels in excess of standard established in the noise ordinance. This would be a significant impact.

MITIGATION MEASURE

Mitigation Measure M-NO-2: HVAC and Mechanical Equipment Exterior Noise

A minimum of 20.5 dB(A) noise reduction is required from the rooftop equipment to achieve the requirements of the San Francisco Police Code. The project sponsor shall implement the following mitigation measure to reduce noise levels from the source equipment and achieve compliance with the police code:

- Enclose as much of the proposed project's rooftop equipment as possible within a mechanical room with small louvered openings to the exterior. The mechanical room and louvered openings can be treated with acoustic absorption and sound attenuators to reduce noise at the property planes.
- If the equipment remains open to the roof, select rooftop equipment with a maximum sound pressure level of 54.4 dB(A) at 50 feet from the equipment.
- Attach sound attenuators to the outside air and exhaust air openings/fans of the rooftop equipment to minimize environmental noise.

During the design phase, once the project sponsor has selected the specific HVAC and mechanical equipment for the proposed project, a qualified acoustical consultant shall conduct a property plane noise analysis. The property plane analysis report shall evaluate whether the proposed HVAC and mechanical equipment complies with the noise limits in the San Francisco Police Code. The report shall be submitted to the San Francisco Planning

Department for review and approval prior to issuance of a building permit or building permit addendum that would permit the HVAC and mechanical equipment.

Significance after Mitigation: Mitigation Measure M-NO-2 would require the project sponsor to implement measures to reduce the noise generated from the Project's mechanical equipment to achieve the operational noise levels mandated by the City and County of San Francisco police code. In addition, the project sponsor will, through a qualified acoustical consultant, prepare a property plane analysis to confirm the HVAC and mechanical equipment package selected for the proposed project complies with the operational noise limits in the police code. Thus, with implementation of M-NO-2 noise impacts from the exterior mechanical system would be less than significant and this topic will not be discussed in the EIR.

HVAC and Mechanical Systems Interior Noise

Per San Francisco Police Code section 2909(d), fixed noise sources cannot intrude into a sleeping or living room in any dwelling unit located on residential property to produce interior noise levels that exceed 45 dB(A) between the hours of 10:00 p.m. to 7:00 a.m. or 55 dB(A) between the hours of 7:00 a.m. to 10:00 p.m. The tallest closest residential receptors to the 469 Stevenson Project are at 47-Sixth Street (approximately 20 feet from the project site) with a building height of 85 feet and 973 Market Street (approximately 22 feet from the project site) with a building height of 101 feet. These residential buildings are the tallest buildings located directly adjacent to the 469 Stevenson building and therefore, the residential units in these buildings will be the closest to the rooftop mechanical equipment on 469 Stevenson Street.

Noise from the projected project's rooftop equipment to these residential properties was calculated to verify compliance with section 2909(d) of the San Francisco Police Code. Because the section 2909(d) analysis is a point calculation to the closest residential units and not a property plane analysis, the effects of the 9-foot, 3 inch tall screen shielding the rooftop mechanical equipment was included in the analysis of interior noise for the mechanical systems. The interior noise analysis also accounts for a 15 dB(A) reduction in noise from the building façade. This is a typical noise reduction factor that assumes windows are open. The results of the interior noise analysis are shown in Table 16 below.

TABLE 16: CALCULATED ROOFTOP MECHANICAL EQUIPMENT NOISE LEVELS AT THE NEAREST INTERIOR RESIDENTIAL RECEPTORS

Receptor Location	Estimated Rooftop Equipment Noise Level at Residence	Façade Noise Reduction ⁶⁰	Calculated Interior Noise Level	Criterion	Exceeds Criterion?
47 Sixth Street	41.5 dB(A)	15 dB(A)	26.5 dB(A)	45 dB(A)	No
973 Market Street	42.7 dB(A)	15 dB(A)	27.7 dB(A)	45 dB(A)	No

⁶⁰ Façade noise reduction is typically 15 dBA with windows open. See http://researchrepository.napier.ac.uk/2040/1/TWFrepNANR_116.pdf

Therefore, interior noise impacts from exterior mechanical noise generated by the proposed project would be less than significant and this topic will not be discussed in the EIR.

Emergency Generators

One emergency generator is planned for the proposed project. The generator is planned to be located within the main electrical room on the ground floor in the southwest portion of the property. The exact discharge, intake, and exhaust pipe paths for the generator are not yet known. The generator would be tested regularly, typically once per month. However, the generator will require a permit to operate from the Bay Area Air Quality Management District, which typically permits emergency generators to operate for testing purposes up to 50 hours per year. The generator would typically be tested during the weekday, daytime hours. Given the generator would be located in an enclosed room and operate at most 1 hour per week during daytime hours, noise from the generator is not anticipated to substantially increase daytime ambient noise levels. Therefore, noise impacts from the emergency generator would be less than significant. No mitigation measures are required, and this topic will not be discussed in the EIR.

Impact C-NO-1: Construction of the proposed project, in combination with reasonably foreseeable projects, would result in a significant cumulative impact related to noise and the project's contribution would be cumulatively considerable. (*Less than Significant with Mitigation*)

There are currently 17 cumulative projects in proximity to the proposed project. One of these projects are transportation network projects (Better Market Street Project) and the rest are development projects. Thirteen of these cumulative projects are within 0.25 mile (1,320 feet) to the 469 Stevenson project site such that their construction and operational noise would have the potential to combine with the project's construction and operational noise at the nearest sensitive receptor locations. These projects include the following:

- 1025 Howard Street (Howard and Sixth streets)
- 1055 Market Street (Between Sixth and Seventh streets)
- 1082 Howard Street (Between Sixth and Seventh streets)
- 1088 Howard Street (Howard and Seventh streets)
- 1125 Market Street (Between Seventh and Eighth streets)
- 457-475 Minna Street (Between Fifth and Sixth streets)
- 481-483 Tehama Street (Tehama and Sixth streets)
- 527 Stevenson Street (Stevenson and Sixth streets)
- 57 Taylor Street (Taylor and Market streets)
- 921 Howard Street (Between Fifth and Sixth streets)

- 984 Folsom Street (Folsom and Sixth streets)
- 996 Mission Street (Between Fifth and Sixth streets)
- Better Market Street (Market Street, between Octavia Boulevard to Steuart Street)
- In addition, it is possible that construction of this project could overlap with construction of the Sixth Street Pedestrian Safety Improvement Project and it is anticipated that construction of the proposed project would overlap with construction of the 5M project.

Of these projects, the closest to the 469 Stevenson Street Project are the 996 Mission Street project, the Better Market Street project, and the 527 Stevenson Street project, being about, 145 feet, 246 feet, and 425 feet away from the project site, respectively. All other project sites are separated from the proposed project by an extended distance. All cumulative projects would have multiple existing buildings between them and the 469 Stevenson Street project site that would provide shielding of their construction to limit the noise which combines with the project construction noise, if they were to be constructed simultaneously. Also, construction at all the cumulative project sites would be subject to the same noise regulations as the proposed project, such as limiting construction hours and equipment noise levels. However, given the large number of cumulative projects nearby and the potential for numerous projects to be under construction simultaneously as the proposed project, cumulative construction noise could be substantial by both increasing the intensity of noise levels in the area and the duration that sensitive receptors experience construction noise. Therefore, the proposed project in combination with cumulative projects would result in a significant construction noise impact. The proposed project would result in construction noise levels that are at least 10 dBA above ambient noise levels for the entire construction duration, and at times the project's construction noise would be approximately 20 dBA above the ambient. However, construction noise levels would fluctuate throughout the day depending upon the specific equipment being used at any one time. Therefore, the proposed project would contribute considerably to this cumulative impact.

MITIGATION MEASURES

Implement *Mitigation Measure M-NO-1: Construction Noise*. Please refer to the mitigation measure stated previously in this section.

Significance after Mitigation: As discussed in Impact NOI-1, Mitigation Measure M-NO-1 would reduce the daytime construction noise levels at nearby noise sensitive receptors. Although construction noise may at times exceed 10 dBA above the ambient or 90 dBA at sensitive receptor locations, this mitigation measure would substantially reduce the intensity of construction noise and the duration of construction noise that exceed 10 dBA above the ambient noise levels or 90 dBA at noise sensitive receptors. Furthermore, construction noise levels would be temporary and would not persist upon completion of construction activities. Individual pieces of construction equipment (apart from impact equipment) would also be required to comply with the noise limits in article 29 of the police code. Thus, with implementation of Mitigation Measure M-NO-1, the proposed project's contribution to cumulative construction noise impacts would be less than significant. This topic will not be addressed in the EIR.

Impact C-NO-2: Construction of the proposed project, in combination with reasonably foreseeable projects, would not result in a significant cumulative impact related to vibration. (*Less than Significant*)

Vibration effects are highly localized, and vibration attenuates rapidly from the source. Therefore, vibration impacts attributable to construction activities generally would be limited to buildings and structures adjacent to the project site. Since the proposed project would not result in vibration-related damage to adjacent structures during construction activities and vibration effects are localized and attenuate rapidly with distance from the source, vibration-generating equipment from the proposed project would not combine with that of even the closest cumulative projects (996 Mission Street, Better Market Street, and 527 Stevenson Street projects) to result in cumulative vibration effects that would damage nearby buildings. Therefore, cumulative vibration effects to the nearby buildings would be less than significant. This topic will not be addressed in the EIR.

Impact C-NO-3: Operation of the proposed project, in combination with reasonably foreseeable projects, would result in a significant cumulative impact related to noise. The proposed project's contribution to this cumulative impact would be less than cumulatively considerable. (*Less than Significant*)

With respect to operational noise, the proposed project would include new fixed noise sources, such as mechanical equipment and HVAC systems that would produce operational noise on the project site. Similar new fixed noise sources would be required for the cumulative projects near the project site, such as the 996 Mission Street and 527 Stevenson Street projects. The proposed project's mechanical equipment and mechanical equipment from cumulative projects would be fairly localized, would attenuate with distance, and would be required to comply with the noise limits in the San Francisco Police Code. Therefore, mechanical and HVAC noise from the proposed project combined with that from cumulative projects would not combine to cause a significant cumulative noise impact.

Cumulative projects would also result in operational noise from vehicular traffic. To estimate future cumulative noise levels due to traffic, peak hour cumulative plus project traffic volumes were used to determine the percent increase of traffic on the roads adjacent to the project site. Due to expected changes in traffic patterns and vehicle restrictions from the Better Market Street project along Market Street and Sixth Street, the project plus cumulative projects would actually reduce future peak hour traffic volume and associated traffic noise along Market Street and Sixth Street. Table 17 shows the existing and cumulative future peak hour traffic volume on the local roadway network. The last two columns in the table show the overall percent change and the estimated difference in peak hour noise level.

TABLE 17: CUMULATIVE TRAFFIC NOISE LEVELS

Roadway	Existing Peak Hour Traffic	Cumulative Peak Hour Traffic Volume with Project	Percent Change	Estimated dB(A) Change
Market Street	580	400	-31%	-1.2 dB(A)

Roadway	Existing Peak Hour Traffic	Cumulative Peak Hour Traffic Volume with Project	Percent Change	Estimated dB(A) Change
Sixth Street	1,844	1,561	-15%	-0.6 dB(A)
Stevenson Street	108	244	126%	Less than 1 dB(A)
Fifth Street	1,402	2,448	75%	3 dB(A)

Peak traffic volume is expected to increase approximately 126 percent along Stevenson Street between Fifth Street and Sixth Street with the cumulative projects plus the proposed project. Even though the traffic on Stevenson Street is expected to increase by 126 percent, the overall peak hour traffic volume is still very low. Cumulative plus project peak hour traffic on Stevenson Street is only expected to be 244 cars. Traffic volumes this low are not expected to generate a great deal of noise and ambient noise levels at the site would still be dominated by the existing noise levels. The change in ambient noise levels along Stevenson Street is estimated to be below 1 dB(A).

Cumulative plus project peak traffic volume along Fifth Street between Stevenson Street and Market Street is expected to increase by 75 percent. Traffic increases of 75 percent only increase noise levels approximately 3 dB(A). However, because the existing noise levels are above 60 dBA Ldn, a 3 dBA increase in traffic noise would be considered significant. Therefore, a significant cumulative traffic noise impact would occur along Fifth Street. However, the project would contribute 28 vehicle trips to Fifth Street under cumulative conditions. The project-related contribution to traffic noise under cumulative conditions would not be considerable because it would represent a minor proportion of the overall traffic volume in the site vicinity and traffic noise from the project would not be perceptible. As such, the proposed project would not contribute considerably to a cumulatively significant impact related to noise from traffic. The proposed project's contribution to significant cumulative traffic noise impacts would be less than significant.

This page left intentionally blank.

E.7 Air Quality

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
7. AIR QUALITY. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed project would result in air pollutant emissions during construction and operation that could be potentially significant. The proposed project's air pollutant emissions will be analyzed in the EIR. The proposed project's potential to result in other emissions, such as odors, are addressed below and will not be analyzed in the EIR.

Impact AQ-1: The proposed project would not result in odors that would affect a substantial number of people. (*Less than Significant*)

The proposed project is a mixed-use residential project and does not include any land uses that are known to generate substantial odors, such as wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, or coffee roasting facilities. Operation of the proposed residential and commercial retail uses, which are typical urban land uses, are not anticipated to create significant sources of new odors. During construction, diesel exhaust from construction equipment would generate odors. However, construction-related odors would be temporary and would not persist upon project completion. Therefore, odor impacts would be less than significant. No mitigation is required, and this topic will not be addressed in the EIR.

Impact C-AQ-1: The proposed project in combination with other reasonably foreseeable cumulative projects would not result in significant cumulative odor impacts. (*Less than Significant*)

As discussed in Impact AQ-1, the proposed residential and commercial retail uses are not uses that would generate odors affecting a substantial number of people. The cumulative projects identified in Table 2 include similar residential and commercial uses that also would not generate odors affecting a substantial number of people. However, as with the proposed project, construction activities required for all the cumulative projects in Table 2 would require the use of

diesel equipment, which would generate odors. Construction related odors would be temporary, disperse with distance from the construction activity, and would not persist upon project completion. Therefore, cumulative odor impacts would be less than significant. No mitigation is required. This topic will not be addressed in the EIR.

E.8 Greenhouse Gas Emissions

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
8. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Greenhouse gas (GHG) emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from cumulative projects have contributed and will continue to contribute to global climate change and its associated environmental impacts.

The air district has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines sections 15064.4 and 15183.5 which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs and describes the required contents of such a plan. Accordingly, San Francisco has prepared *Strategies to Address Greenhouse Gas Emissions*, which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's qualified GHG reduction strategy in compliance with CEQA guidelines.⁶¹ These GHG reduction actions have resulted in a 36 percent reduction in GHG emissions in 2016 compared to 1990 levels,⁶² exceeding the 2020 reduction goals outlined in the air district's 2017 clean air plan, Executive Order S-3-05, and Assembly Bill 32 (also known as the Global Warming Solutions Act).⁶³

Given that the city has met the state and region's 2020 GHG reduction targets and San Francisco's GHG reduction goals are consistent with, or more aggressive than, the long-term goals established

⁶¹ San Francisco Planning Department, 2017, *Strategies to Address Greenhouse Gas Emissions in San Francisco*, 2017. Available at <http://sf-planning.org/strategies-address-greenhouse-gas-emissions>.

⁶² San Francisco Department of the Environment, *San Francisco's Carbon Footprint*, <https://sfenvironment.org/carbon-footprint>, accessed May10, 2019.

⁶³ Executive Order S-3-05, Assembly Bill 32, and the air district's 2017 Clean Air Plan (continuing the trajectory set in the 2010 Clean Air Plan) set a target of reducing GHG emissions to below 1990 levels by 2020.

under Executive Orders S-3-05,⁶⁴ B-30-15,^{65,66} and Senate Bill 32, the city's GHG reduction goals are consistent with orders S-3-05, B-30-15, Assembly Bill 32, Senate Bill 32^{67,68} and the 2017 clean air plan. Therefore, proposed projects that are consistent with the city's GHG reduction strategy would be consistent with the aforementioned GHG reduction goals, would not conflict with these plans or result in significant GHG emissions, and would therefore not exceed San Francisco's applicable GHG threshold of significance.

The following analysis of the proposed project's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Because no individual project could emit GHGs at a level that could result in a significant impact on the global climate, this analysis is in a cumulative context, and this section does not include an individual project-specific impact statement.

Impact C-GG-1: The proposed project would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (*Less than Significant*)

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers; energy required to pump, treat, and convey water; and emissions associated with waste removal, disposal, and landfill operations.

The proposed project would generate GHGs during construction and operation. Construction activities that are likely to emit GHGs include demolition of the existing surface parking lot, site preparation and grading, excavation, shoring, building construction, architectural coating, paving, and site finishing work. Throughout the construction process there would also be daily

64 Executive Order S-3-05 sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of carbon dioxide equivalents (MTCO₂E)); by 2020, reduce emissions to 1990 levels (approximately 427 million MTCO₂E); and by 2050 reduce emissions to 80 percent below 1990 levels (approximately 85 million MTCO₂E). Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

65 Executive Order B-30-15, issued on April 29, 2015, sets forth a target of reducing GHG emissions to 40 percent below 1990 levels by 2030 (estimated at 2.9 million MTCO₂E).

66 San Francisco's GHG reduction goals are codified in Section 902 of the Environment Code and include: (i) by 2008, determine City GHG emissions for year 1990; (ii) by 2017, reduce GHG emissions by 25 percent below 1990 levels; (iii) by 2025, reduce GHG emissions by 40 percent below 1990 levels; and by 2050, reduce GHG emissions by 80 percent below 1990 levels.

67 Senate Bill 32 amends California Health and Safety Code Division 25.5 (also known as the California Global Warming Solutions Act of 2006) by adding Section 38566, which directs that statewide greenhouse gas emissions to be reduced by 40 percent below 1990 levels by 2030.

68 Senate Bill 32 was paired with Assembly Bill 197, which would modify the structure of the State Air Resources Board; institute requirements for the disclosure of greenhouse gas emissions criteria pollutants, and toxic air contaminants; and establish requirements for the review and adoption of rules, regulations, and measures for the reduction of greenhouse gas emissions.

transportation of materials. Equipment used for the above activities would be fueled by diesel, propane, and gasoline, which would contribute to emissions of nitrogen oxides, particulate matter, sulfur dioxide, carbon monoxide, methane, and carbon dioxide.

The proposed project would generate operational GHG emissions from a variety of sources, including area sources (consumer products, architectural coatings, and landscape equipment), mobile sources (daily automobile and truck trips), and energy sources (natural gas combustion in boilers/heaters and stoves). The proposed project also requires one emergency diesel backup generator. The generator is planned to be located within the main electrical room on the ground floor in the southwest portion of the property. The exact discharge, intake, and exhaust pipe paths for the generator are not yet known. The generator would be tested regularly, typically once per month. However, the generator will require a permit to operate from the Bay Area Air Quality Management District, which typically permits emergency generators to operate for testing purposes up to 50 hours per year. The generator would result in emissions during testing and emergency operation.

The proposed project would be subject to the regulations summarized in the city's GHG Reduction Strategy.⁶⁹ As discussed below, compliance with the applicable regulations would reduce the project's GHG emissions related to transportation, energy efficiency, water conservation, and waste disposal.

Compliance with the city's Commuter Benefits Program, Transportation Demand Management Programs, Transportation Sustainability Fee, bicycle parking requirements, low emission car parking requirements, and car sharing requirements would reduce the proposed project's transportation-related emissions. These regulations reduce GHG emissions from single-occupancy vehicles by promoting the use of alternative transportation modes with zero or lower GHG emissions on a per capita basis. Furthermore, the proposed project would include the following features that would increase the walkability of the site and the surrounding area: enhanced sidewalk and entry paving, new light fixtures, new street trees, and on-street bicycle racks.

The proposed project would be required to comply with the energy efficiency requirements of the city's Green Building Code; alternative water sources for non-potable applications; Stormwater Management Ordinance; Water Use Reduction, Water Conservation, and Efficient Irrigation ordinances; and Energy Conservation Ordinance, which would promote energy and water efficiency, thereby reducing the proposed project's energy-related GHG emissions.⁷⁰

The proposed project's waste-related emissions would be reduced through compliance with the city's Recycling and Composting Ordinance, Construction and Demolition Debris Recovery Ordinance, and Green Building Code requirements. These regulations reduce the amount of materials sent to a landfill, reducing GHGs emitted by landfill operations. These regulations also

69 San Francisco Planning Department. 2017. 2017 Greenhouse Gas Reduction Strategy Update. Available <https://sfplanning.org/project/greenhouse-gas-reduction-strategies>. Accessed February 20, 2019.

70 Compliance with water conservation measures reduce the energy (and GHG emissions) required to convey, pump and treat water required for the project

promote reuse of materials, conserving their embodied energy and reducing the energy required to produce new materials.⁷¹

The proposed project would plant approximately eight new trees in accordance with the city's street tree planting requirements along Jessie Street, which would serve to increase carbon sequestration. The proposed project would not include wood burning fireplaces and therefore would comply with the air district's Wood-Burning Devices Regulation. The proposed project would also comply with section 4.504 of the CALGreen requirements and use low-emitting coatings, paints, adhesives, and finishes to reduce volatile organic compounds (VOCs).⁷² As such, the proposed project was determined to be consistent with San Francisco's GHG reduction strategy.⁷³

The project sponsor is required to comply with these regulations, which have proven effective as San Francisco's GHG emissions have measurably decreased when compared to 1990 emissions levels, demonstrating that the city has met and exceeded Executive Order S-3-05, Assembly Bill 32, and the 2017 Clean Air Plan GHG reduction goals for the year 2020. Furthermore, because San Francisco has reduced its GHG emissions, as of 2016, to 30 percent below 1990 levels, the city has met its goal of reducing GHG emissions to 25 percent below 1990 levels by 2017. Other existing regulations, such as those implemented through Assembly Bill 32, will continue to reduce a proposed project's contribution to climate change. In addition, San Francisco's local GHG reduction targets are consistent with the long-term GHG reduction goals of Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and the 2017 Clean Air Plan. Therefore, because the proposed project is consistent with the city's GHG reduction strategy, it is also consistent with the GHG reduction goals of Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and the 2017 Clean Air Plan, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance. As such, the proposed project's contribution to cumulative GHG impacts would be less than cumulatively considerable, and no mitigation measures are required. This topic will not be addressed in the EIR.

71 Embodied energy is the total energy required for the extraction, processing, manufacture and delivery of building materials to the building site.

72 While not a GHG, VOCs are precursor pollutants that form ground level ozone. Increased ground level ozone is an anticipated effect of future global warming that would result in added health effects locally. Reducing VOC emissions would reduce the anticipated local effects of global warming.

73 San Francisco Planning Department, Greenhouse Gas Analysis: Compliance Checklist for 469 Stevenson Street. September 11, 2019.

E.9 Wind

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
9. WIND. Would the project:					
a) Create wind hazards in publicly accessible areas of substantial pedestrian use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wind is analyzed as part of CEQA review in the city with respect to potential pedestrian hazards, based on the criteria in planning code section 148, Reduction of Ground-Level Wind Currents in C-3 Use Districts. For wind hazards, section 148 requires that buildings do not cause an equivalent wind speed of 26 mph as averaged for a single full hour of the year.^{74,75} This hazard criterion of section 148 is used by the planning department as a CEQA significance threshold for the determination of whether a project would create wind hazards in publicly accessible areas of substantial pedestrian use.

The proposed project would involve the construction of a 27-story building approximately 274 feet tall (with an additional 10 feet for rooftop mechanical equipment). The proposed project could result in increased ground-level wind speeds on the project site and on adjacent sidewalks that could exceed pedestrian comfort limits and hazard criteria set forth in the planning code. Therefore, wind impacts will be evaluated further in the EIR.

⁷⁴ The wind ordinance comfort criteria are defined in terms of equivalent wind speed, which is an average wind speed (mean velocity), adjusted to include the level of gustiness and turbulence. Equivalent wind speed is defined as the mean wind velocity, multiplied by the quantity (one plus three times the turbulence intensity) divided by 1.45. This calculation magnifies the reported wind speed when turbulence intensity is greater than 15 percent. Unless otherwise stated, use of the term "wind speed" in connection with the wind-tunnel tests refers to equivalent wind speeds that are exceeded 10 percent of the time.

⁷⁵ The wind hazard criterion is derived from the 26 mph hourly average wind speed that would generate a 3-second gust of wind at 20 meters per second, a commonly used guideline for wind safety. Because the original federal building wind data was collected at 1-minute averages, the 26 mph hourly average is converted to a 1-minute average of 36 mph, which is used to determine compliance with the 26 mph 1-hour hazard criterion in the planning code (Arens, E., et al. 1989. "Developing the San Francisco Wind Ordinance and its Guidelines for Compliance," Building and Environment, Vol. 24, No. 4, p. 297–303).

This page left intentionally blank.

E.10 Shadow

<u>Topics:</u>	<u>Potentially Significant Impact</u>	<u>Less than Significant with Mitigation Incorporated</u>	<u>Less-than- Significant Impact</u>	<u>No Impact</u>	<u>Not Applicable</u>
10. SHADOW. Would the project:					
a) Create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

San Francisco Planning Code section 295 regulates new structures above 40 feet in height that would cast additional shadows on open space that is under the jurisdiction of the San Francisco Recreation and Park Commission between one hour after sunrise and one hour before sunset, at any time of the year. A project that adds new shadow to sidewalks or a public open space on a section 295 park does not necessarily result in a significant impact under CEQA; the city's significance criteria used in CEQA review asks whether a project would "create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces."

The proposed project would construct a 27-story building, approximately 274 feet tall. A refined shadow fan analysis was prepared by a shadow consultant that takes into account the shadow cast by existing buildings and the proposed project to determine which public open spaces the proposed project could cast net new shadow upon. The refined shadow fan analysis indicates the proposed project could potentially shade UN Plaza and Mint Plaza.⁷⁶

The EIR will evaluate the net new shadow cast by the proposed project on the above public open spaces to determine whether the proposed project could create new shadow that substantially affects the use and enjoyment of those public open spaces.

⁷⁶ PreVision Design, 469 Stevenson Street Full Year Net New Shadow Fan Diagram Factoring in the Presence of Existing Shadows. August 22, 2019.

This page left intentionally blank.

E.11 Recreation

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
11. RECREATION. Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact RE-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated or the construction of new facilities would be required. (*Less than Significant*)

As described in Section E.2, Population and Housing, implementation of the proposed project would add approximately 1,086 residents and 11 employees to the project site. This would represent an approximately 13 percent increase over the existing population of 8,432 in census tract 176.01.

In accordance with the San Francisco Planning Code, the proposed project would provide a total of approximately 14,000 square feet of common open space available to residents of the proposed project in the form of a lounge solarium, fitness solarium, first floor courtyard, and roof lounge. In addition, the proposed project would provide approximately 11,000 square feet of private residential open space, which would consist of private balconies for 15 dwelling units. New employees and residents generated by the project may use open spaces provided by the project and other parks and recreational facilities in the vicinity of the project site.

The new residents of the proposed project would be served by the RPD, which administers more than 220 parks, playgrounds, and open spaces throughout the city, as well as recreational facilities including recreation centers, swimming pools, golf courses, and athletic fields, tennis courts, and basketball courts.⁷⁷ Table 18 lists the recreational resources within 0.5 mile of the project site.

⁷⁷ San Francisco Recreation and Parks Department. Available online at: sfrecpark.org. Accessed April 15, 2019.

TABLE 18: RECREATIONAL RESOURCES WITHIN ONE-HALF MILE OF PROJECT SITE

Name	Size (acres)	Distance from Project Site (miles)	2017 Park Maintenance Score	Amenities
Father Alfred E. Boeddeker Park	0.97	0.3	95.7%	Basketball half-court, swings, slide and play structures.
Gene Friend Recreation Center Park	1.02	0.3	83.2%	Full indoor gymnasium, activity room, weight room, auditorium, outdoor basketball court, playground, badminton and volleyball courts, and ping pong tables.
Turk-Hyde Mini Park	0.11	0.4	75.9%	Play structures and a 4-foot high train with two cars.
Tenderloin Recreation Center	0.61	0.4	87.1%	Recreation center, playground, street soccer court, ball diamond, and child-sized gym.
Victoria Manalo Draves Park	2.52	0.5	88.3%	Softball field, basketball court, dual-level playground, picnic area, community garden and large, grassy field.
Joseph L. Alioto Performing Arts Piazza	5.38	0.5	85.6%	Two play areas.
Total	10.61	--	85.9% (average)	--

Source: San Francisco Park Evaluation Program. 2017. Available online at: <http://sfparkscores.weebly.com/map.html>. Accessed: June 18, 2019. San Francisco Recreation and Parks. 2019. Park Destination Map. Available online at: <https://sfrecpark.org/destinationtype/park/>. Accessed: June 18, 2019.

In 2003, voters passed Proposition C, which mandated the evaluation of park maintenance at city parks. The maintenance score for each park is based on criteria that reflect the different facilities at each park.⁷⁸ These scores reflect the park's performance in categories such as play areas, greenspace, hardscape, lawns, restrooms, seating areas, and others. Table 19 shows the maintenance score for parks within 0.5 mile of the project site. The average score of all parks within 0.5 mile is 85.9 percent.

While the proposed project would introduce a new permanent population living at the site, as discussed in Section C.1, San Francisco Planning Code, the proposed project would provide

⁷⁸ City and County of San Francisco. 2018. Park Maintenance Standards Annual Report. Available: <https://sfrecpark.org/wp-content/uploads/Annual-Park-Maintenance-Standards-Report-FY18.pdf>. Accessed: July 31, 2019.

approximately 11,000 square feet of private open space and 14,000 square feet of common usable open space. Residents are also expected to use the six recreational facilities within 0.5 mile of the project site as well as regional open space attractions offered in the city, including Golden Gate Park, the Presidio, Lake Merced, McLaren Park, etc. Therefore, it is unlikely that the proposed project would substantially increase the demand for or use of either neighborhood parks and recreational facilities or city-wide facilities to the extent that physical deterioration would occur or require the construction or expansion of recreational facilities that could result in significant physical environmental impacts. As such, the proposed project would have a less-than-significant impact on parks and recreational facilities. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-RE-1: The proposed project, in combination with other reasonably foreseeable projects would not result in a significant cumulative impact related to recreation. (*Less than Significant*)

As discussed in Section E.2, Population and Housing, San Francisco has a population of approximately 883,305.⁷⁹ According to ABAG's Projections 2013, San Francisco's population will increase by approximately 74,700, from 959,405 in 2020 to 1,034,175 in 2030.⁸⁰ Therefore, the 1,086 new residents generated by the proposed project would account for approximately 0.10 percent of the residential growth expected in the city by 2030.

Although the proposed project would represent only a small portion of the projected growth for the city, overall citywide growth would generate demand for recreational resources as the population increases. The city has accounted for such growth as part of the recreation and open space element of the San Francisco General Plan. In addition, San Francisco voters passed two bond measures, in 2008 and 2012, to fund the acquisition, planning, and renovation of the city's network of recreational resources to meet increased demand.

The geographic context for analysis of cumulative impacts to recreational resources consists of the South of Market neighborhood and the recreational facilities within it. Cumulative development identified within 0.25 mile of the project site is expected to increase the residential population of the area. Therefore, the proposed project, in combination with the reasonably foreseeable future projects, would increase demand for recreational facilities and resources. Although the proposed project, in combination with the reasonably foreseeable projects, would increase the use of parks and recreational facilities, as shown in Table 19 there are six well maintained parks within a 0.5 mile of the project site, as well as regional open space attractions offered in the city. The increase in demand for recreational facilities would be disbursed among these parks, which would minimize

⁷⁹ U.S. Census Bureau, San Francisco County, California, Families and Living Arrangements, Persons per households, 2013-2017. Available online at: <https://www.census.gov/quickfacts/sanfranciscocountycalifornia>. Accessed June 12, 2019.

⁸⁰ Metropolitan Transportation Commission and Association of Bay Area Government, 2019. San Francisco Total Population Projections 2040. Available online at: <http://projections.planbayarea.org/data>. Accessed: June 18, 2019.

impacts on any single park. Further, as mentioned above, the city has bond funding and a capital improvement plan in place to fund necessary repairs and upgrades at existing parks.

In addition, the proposed project would be required to include a total of approximately 25,000 square feet of common and private open space for use by residents, which would partially offset the use of city parks and open spaces. The reasonably foreseeable projects would also be required to comply with the applicable open space requirements of the planning code, thereby also partially offsetting their demand on parks of open spaces. Therefore, because there are a number of well-maintained parks and open spaces in the project vicinity, and because the proposed project and reasonably foreseeable projects would be required to provide open space for project residents in accordance with planning code requirements, and the city has accounted for the effects of increased growth on its facilities as part of the recreation and open space element and bond measures, the proposed project, in combination with reasonably foreseeable future projects, would have less-than-significant cumulative recreation impacts, and no mitigation measures are required. This topic will not be discussed in the EIR.

E.12 Utilities and Service Systems

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
12. UTILITIES AND SERVICE SYSTEMS.					
Would the project:					
a) Require or result in the relocation or construction of new or expanded, water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site is located within an urban area that is served by water storage, treatment, and distribution facilities; combined wastewater and stormwater collection, storage, treatment, and disposal facilities; electric power, natural gas, and telecommunication facilities; and solid waste collection and disposal service systems.

Impact UT-1: The proposed project would not 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, nor would it result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (*Less than Significant*)

The project site is served by San Francisco's combined sewer system, which collects and treats most of the wastewater and stormwater at one of the three SFPUC treatment facilities. Wastewater and stormwater generated by the project would be treated at the Southeast Water Pollution

Control Plant, which currently treats 60 million gallons of wastewater per day (mgd) and has the capacity to treat up to 250 mgd during a rainstorm.⁸¹

As described in Impact PH-1 in Section E.2, Population and Housing, the project would add approximately 1,086 residents to the project site. Based on the sewer calculations provided by BKF Engineers, the proposed project is estimated to produce approximately 45,405 gallons of wastewater per day (45,000 gallons per day [gpd] for residential use and 405 gpd for the retail use). The sewer calculations were based on a 95 percent return on water use.⁸² The estimated amount of wastewater generated by the proposed project would represent 0.01 percent of the 60 mgd of wastewater treated at the Southeast Water Pollution Control Plant. The proposed project would also incorporate water-efficient fixtures, as required by Title 24 of the California Code of Regulations and the city's Green Building Ordinance. Compliance with these regulations would reduce wastewater flows generated by the project. In addition, separate from the proposed project, the SFPUC is upgrading the existing infrastructure at the Southeast Water Pollution Control Plant as part of its Sewer System Improvement Program to ensure reliability and performance of the city's sewer system.⁸³ Therefore, the proposed project's wastewater would be accommodated by the existing wastewater system.

With regards to stormwater drainage, the project site is currently a surface parking lot and completely covered with impervious surfaces. The proposed project would not expand any existing impervious surfaces; therefore, the proposed project would not result in an increase in stormwater runoff. The proposed project would be required to comply with the city's Stormwater Management Ordinance (as codified in section 147 of the San Francisco Public Works Code) and the 2016 Stormwater Management Requirements and Design Guidelines, which requires projects replacing more than 5,000 square feet of impervious surface to decrease the existing stormwater runoff flow rate and volume at the site by 25 percent for a two-year 24-hour design storm.⁸⁴ As discussed in the Project Description, the proposed project would install low impact design measures such as vegetated sidewalk planting areas, permeable pavement, steel planter areas, and a rainwater cistern to meet the requirements of the Stormwater Management Requirements and Design Guidelines. Installation of these site design measures would manage stormwater onsite and limit demand on the city's stormwater collection system and facilities. The proposed project would also be required to implement a stormwater control plan as approved by the SFPUC. The stormwater control plan would include a maintenance agreement signed by the project sponsor to ensure proper care of the stormwater controls.

The project would install new connections to the surrounding PG&E electric grid and natural gas system to provide service to the proposed building. The project would also provide

81 SFPUC. 2014. SFPUC Sewer System Improvement Program. Available online at: <https://sfwater.org/modules/showdocument.aspx?documentid=5801>. Accessed: February 10, 2019.

82 Personal Communication BKF Engineers on August 2, 2019.

83 SFPUC. 2014. SFPUC Sewer System Improvement Program. Available online at: <https://sfwater.org/modules/showdocument.aspx?documentid=5801>. Accessed: February 10, 2019.

84 SFPUC. 2016. Stormwater Management Requirements and Design Guidelines. Available online at: <https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026>. Accessed: February 10, 2019.

connections to communication lines along adjacent roadways. These improvements are part of the project description, and the environmental impacts associated with their construction are evaluated throughout this initial study and in the EIR. Other than localized connections to the existing systems, the project would not result in the construction or relocation of new or expanded stormwater, wastewater, electric, natural gas, or telecommunications facilities (e.g., electric substations, telecommunication towers). Therefore, this impact would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact UT-2: Adequate water supplies are available to serve the proposed project and reasonably foreseeable future development in normal, dry, and multiple dry years, unless the Bay Delta Plan Amendment is implemented; in that event, the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years, but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near term; instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing. (*Less than Significant*)

In 2016, the SFPUC adopted its 2015 Urban Water Management Plan,⁸⁵ which estimates that current and projected water supplies will meet future retail demand⁸⁶ through 2035 under normal-year, single-dry-year and multiple-dry-year conditions. However, if a multiple-dry-year event occurs, the SFPUC will implement water use and supply reductions through its retail water shortage allocation plan.

In December 2018, the State Water Resources Control Board adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, establishing water quality objectives to maintain the health of our rivers and the Bay-Delta ecosystem (the Bay-Delta Plan Amendment).⁸⁷ The state water board has stated that it intends to implement the Bay-Delta Plan Amendment by 2022, assuming all required approvals are obtained by that time. Implementation of the Bay-Delta Plan Amendment will result in a substantial reduction in SFPUC's water supplies from the Tuolumne River watershed during dry years, requiring rationing in San Francisco to a degree greater than that previously anticipated to address supply shortages that were not accounted for in the 2015 Urban Water Management Plan.

⁸⁵ San Francisco Public Utilities Commission, 2015 Urban Water Management Plan for the City and County of San Francisco, June 2016. Available online at: <https://sfwater.org/index.aspx?page=75>. Accessed: June 4, 2019.

⁸⁶ "Retail" demand represents water the SFPUC provides to individual customers within San Francisco and several individual customers outside of San Francisco. "Wholesale" demand represents water the SFPUC provides to water agencies that supply other jurisdictions.

⁸⁷ State Water Resources Control Board, Resolution No. 2018-0059, Adoption of Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Final Substitute Environmental Document, December 12, 2018. Available online at: https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.

The SFPUC has prepared a memorandum to consider future water supply scenarios with adoption of the Bay-Delta Plan Amendment.⁸⁸ As discussed in the SFPUC memorandum, implementation of the plan amendment is uncertain for several reasons. Whether the Bay-Delta Plan Amendment will be implemented, when it will be implemented, and the form that implementation will take, as well as how the amendment will affect SFPUC's water supply, are currently unknown. The SFPUC memorandum estimates total shortfalls in water supply (e.g., total retail demand minus total retail supply) to retail customers through 2040 under three increasingly supply-limited scenarios:

1. Without implementation of the Bay-Delta Plan Amendment, wherein the water supply and demand assumptions contained in the 2015 Urban Water Management Plan and the 2009 Water Supply Agreement, as amended, would remain applicable.
2. With implementation of a voluntary agreement between the SFPUC and the State Water Resources Control Board, including a combination of flow and non-flow measures that would be designed to benefit fisheries at a lower water cost, particularly during multiple dry years, than that under the Bay-Delta Plan Amendment.
3. With implementation of the Bay-Delta Plan Amendment as adopted.

As estimated in the SFPUC memorandum, water supply shortfalls during dry years would be lowest without implementation of the Bay-Delta Plan Amendment and highest with implementation of the plan amendment. The range of shortfalls under the proposed voluntary agreement would be between those with and without implementation of the Bay-Delta Plan Amendment.⁸⁹

Under the three scenarios, the SFPUC would have adequate water to meet total retail demands through 2040 in normal years.⁹⁰ For single dry years and multiple dry years (years 1, 2, and 3) of an extended drought, the SFPUC memorandum estimates that shortfalls in water supplies relative to demand would occur both with and without implementation of the Bay-Delta Plan Amendment. Without implementation of the plan amendment, shortfalls would range from approximately 3.6 to 6.1 mgd, or 5 to 6.8 percent, during dry years through 2040. With

⁸⁸ Memorandum from Steven R. Ritchie, SFPUC, to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department, Environmental Planning Division, May 31, 2019.

⁸⁹ On March 26, 2019, the SFPUC adopted Resolution No. 19-0057 to support its participation in the voluntary agreement negotiation process. To date, those negotiations are ongoing with the California Natural Resources Agency. The SFPUC submitted a proposed project description to the state water board on March 1, 2019, that could be the basis for a voluntary agreement. Because the proposed voluntary agreement has yet to be accepted by the state water board as an alternative to the Bay-Delta Plan Amendment, the shortages that would occur with its implementation are not known with certainty; however, if accepted, the voluntary agreement would result in dry-year shortfalls of a lesser magnitude than those under the Bay-Delta Plan Amendment.

⁹⁰ Based on historic records of hydrology and reservoir inflow from 1920 to 2017 and current delivery and flow obligations, with the fully implemented infrastructure from the 2018 Phased Water System Improvement Program Variant, normal or wet years occurred during 85 out of 97 years. This translates into roughly nine normal or wet years out of every 10. Conversely, system-wide rationing is required roughly one out of every 10 years. This frequency is expected to increase as climate change intensifies.

implementation of the Bay-Delta Plan Amendment, shortfalls would range from 12.3 mgd (15.6 percent) in a single dry year to 36.1 mgd (45.7 percent) in years seven and eight of the 8.5-year design drought, based on 2025 demand levels, and from 21 mgd (23.4 percent) in a single dry year to 44.8 mgd (49.8 percent) in years seven and eight of the 8.5-year design drought, based on 2040 demand.

The proposed project does not require a water supply assessment under the California Water Code. Under sections 10910 through 10915 of the California Water Code, urban water suppliers, such as the SFPUC, must prepare water supply assessments for certain “large water demand” projects, as defined in CEQA Guidelines section 15155.⁹¹ The proposed project would result in 462 new dwelling units and approximately 4,000 square feet of commercial retail. as such, it does not qualify as a “large water demand” project, as defined by CEQA Guidelines section 15155(a)(1). A water supply assessment is not required and has not been prepared for the project.

Although a water supply assessment is not required, the following discussion provides an estimate of the project’s maximum water demand in relation to the three supply scenarios. No single development project alone in San Francisco would require the development of new or expanded water supply facilities or require the SFPUC to take other actions, such as imposing a higher level of rationing across the city in the event of a supply shortage in dry years. Therefore, a separate project-only analysis is not provided for this topic. The following analysis instead considers whether the proposed project, in combination with both existing development and projected growth through 2040, would require new or expanded water supply facilities, the construction or relocation of which could have significant cumulative impacts on the environment. It also considers whether a high level of rationing would be required that could have significant cumulative impacts. It is only under this cumulative context that development in San Francisco could have the potential to require new or expanded water supply facilities, or require the SFPUC to take other actions, which, in turn, could result in significant physical environmental impacts related to water supply. If significant cumulative impacts could result, then the analysis considers whether the project would make a considerable contribution to the cumulative impact.

⁹¹ Pursuant to CEQA Guidelines section 15155,

- a. The following definitions are applicable to this section.
 1. A “water-demand project” means:
 - A. A residential development of more than 500 dwelling units.
 - B. A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
 - C. A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor area.
 - D. A hotel or motel, or both, having more than 500 rooms. (
 - E. An industrial, manufacturing, or processing plant or industrial park for more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
 - F. A mixed-use project that includes one or more of the projects specified in subdivisions (a)(1)(A), (a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(1)(E), and (a)(1)(G) of this section.
 - G. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a project with 500 dwelling units.

Based on guidance from the California Department of Water Resources and a citywide demand analysis, the SFPUC established 50,000 gpd as the equivalent project demand for projects that do not meet the definitions provided in CEQA Guidelines section 15155(a)(1).⁹² The new development proposed by the project would represent 98 percent of the 500-unit limit provided in section 15155(1)(A) and 0.8 percent of the 500,000 square foot limit for a shopping center or business establishment provided in section 15155(1)(C). In addition, the proposed project would incorporate water-efficient fixtures, as required by Title 24 of the California Code of Regulations and the city's Green Building Ordinance. It is therefore reasonable to assume that the proposed project would result in an average daily water demand of less than 50,000 gallons.

The SFPUC has prepared estimates of total retail demand in five-year intervals from 2020 through 2040.⁹³ Assuming that the project would demand no more than 50,000 gallons of water per day (or 0.05 mgd), Table 19 compares this maximum with total retail demand from 2020 through 2040. At most, the proposed project's water demand would represent a small fraction of total projected retail water demand, ranging from 0.07 to 0.06 percent between 2020 and 2040. As such, the project's water demand is not substantial enough to require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

TABLE 19: PROPOSED PROJECT WATER DEMAND RELATIVE TO TOTAL RETAIL WATER DEMAND (MGD)

	2020	2025	2030	2035	2040
Total Retail Demand	72.1	79	82.3	85.9	89.9
Total Demand of Proposed Project	0.05	0.05	0.05	0.05	0.05
Total Demand of Proposed Project as Percentage of Total Retail Demand	0.07%	0.06%	0.06%	0.06%	0.06%

Adequate water supplies are available to serve the proposed project and reasonably foreseeable future development in normal, dry, and multiple dry years, unless the Bay-Delta Plan Amendment is implemented. As indicated above, the proposed project's maximum demand would represent less than 0.06 percent of the total retail demand in 2040, when implementation of the Bay-Delta Plan Amendment would result in a retail supply shortfall of up to 49.8 percent in a multiple-year drought. The SFPUC has indicated that it is accelerating its efforts to develop additional water supplies and explore other projects that would increase overall water supply resilience in case the Bay-Delta Plan Amendment is implemented. The SFPUC has identified possible projects that it will study, but it has not determined the feasibility of the projects and has not made any decision to pursue any particular water supply project. The SFPUC has determined

⁹² Memorandum from Steven R. Ritchie, assistant general manager, Water Enterprise, San Francisco Public Utilities Commission, to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department- Environmental Planning, May 31, 2019.

⁹³ San Francisco Public Utilities Commission, 2015 Urban Water Management Plan for the City and County of San Francisco, June 2016. Available online at: <https://sfwater.org/index.aspx?page=75>. Accessed: June 4, 2019.

that the identified potential projects would take anywhere from 10 to 30 years, or more, to implement. The potential impacts that could result from construction and/or operation of any such water supply facility project cannot be identified at this time. In any event, under a worst-case scenario, demand for the SFPUC to develop new or expanded dry-year water supplies will exist, regardless of whether the proposed project is constructed.

In the event that the Bay-Delta Plan Amendment were to take effect sometime after 2022 and result in a dry-year shortfall, the expected action of the SFPUC for the next 10 to 30 years (or more) would be limited to requiring increased rationing, given the long lead times associated with developing additional water supplies. As discussed in the SFPUC memorandum, the SFPUC has established a process through its Retail Water Shortage Allocation Plan for actions it would take under circumstances that would require rationing. The level of rationing that would be required of the proposed project is unknown at this time. Both direct and indirect environmental impacts could result from high levels of rationing. However, the small increase in potable water demand attributable to the project, compared with citywide demand, would not substantially affect the levels of dry-year rationing that would otherwise be required throughout the city. Therefore, the proposed project would not make a considerable contribution to a cumulative environmental impact caused by implementation of the Bay-Delta Plan Amendment, and no mitigation measures are required. This topic will not be discussed in the EIR.

Impact UT-3: The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (*Less than Significant*)

In September 2015, the city entered into a landfill disposal agreement with Recology, Inc. for disposal of all solid waste collected in San Francisco, at the Recology Hay Road Landfill in Solano County for nine years or until 3.4 million tons have been disposed, whichever occurs first. The city would have an option to renew the agreement for a period of six years or until an additional 1.6 million tons have been disposed, whichever occurs first.⁹⁴ The Recology Hay Road Landfill is permitted to accept up to 2,400 tons per day of solid waste. At that maximum rate the landfill would have capacity to accommodate solid waste until approximately 2034. Currently, the Hay Road Landfill receives an average of 1,850 tons per day, including 1,200 tons per day from San Francisco; at this rate landfill closure would occur in 2041.⁹⁵ The city's contract with the Recology Hay Road Landfill is set to terminate in 2031 or when 5 million tons have been disposed, whichever occurs first. At that point, the city will either further extend the Recology Hay Road Landfill contract or find and entitle another landfill site. Although the proposed project would incrementally increase total waste generation from the city, the solid waste generated by the proposed project's construction and operation would not result in the landfill exceeding its permitted capacity.

⁹⁴ San Francisco Planning Department. 2015. Agreement for Disposal of San Francisco Municipal Solid Waste at Recology Hay Road Landfill in Solano County Final Negative Declaration, Planning Department Case No. 2014.0653. Available http://sfmea.sfplanning.org/2014.0653E_Revised_FND.pdf. Accessed February 10, 2019.

⁹⁵ Ibid.

Therefore, the proposed project would be served by landfills with sufficient permitted capacity to accommodate its solid waste disposal needs and impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact UT-4: Construction and operation of the proposed project would comply with all applicable statutes and regulations related to solid waste. (*Less than Significant*)

The California Integrated Waste Management Act of 1989 (Assembly Bill 939) requires municipalities to adopt an Integrated Waste Management Plan to establish objectives, policies, and programs relative to waste disposal, management, source reduction, and recycling.

San Francisco Ordinance No. 27-06 requires a minimum of 65 percent of construction and demolition debris to be recycled and diverted from landfills. Additionally, San Francisco Ordinance 100-09, Mandatory Recycling and Composting Ordinance, requires everyone in the city to separate their refuse into recyclables, compostables, and trash. Furthermore, the Recology Hay Road landfill is required to meet federal, state, and local solid waste regulations. The proposed project would be required to comply with the solid waste disposal regulations identified above and impacts related to compliance with solid waste regulations would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-UT-1: The proposed project, in combination with reasonably foreseeable projects, would not result in a significant cumulative impact related to utilities and service systems. (*Less than Significant*)

WASTEWATER AND STORMWATER

The geographic context for cumulative wastewater and stormwater impacts is the Southeast Water Pollution Control Plant drainage basin. The city's combined sewer system and treatment facilities are designed to accept both wastewater and stormwater flows. As with the proposed project, all reasonably foreseeable projects in the drainage basin would be required to comply with San Francisco regulations regarding wastewater and stormwater generation. Although reasonably foreseeable projects would likely result in increased wastewater flows, regulations require that, for projects replacing 5,000 square feet or more of impervious surface, stormwater flows be reduced by 25 percent over existing conditions. The 25 percent reduction in stormwater flows would result in an overall reduction in combined flows during peak wet-weather flow events. Therefore, the proposed project, in combination with reasonably foreseeable future projects, would have a less-than-significant cumulative impact on the combined sewer collection and treatment system.

WATER

As discussed in Impact UT-2, no single development project alone in San Francisco would require the development of new or expanded water supply facilities. The analysis provided in Impact UT-2 considers whether the proposed project, in combination with both existing development and projected growth through 2040, would require new or expanded water supply facilities, the construction or relocation of which could have significant cumulative impacts on the environment. Therefore, no separate cumulative analysis is required.

SOLID WASTE

The geographic context for cumulative solid waste impacts is the city. Long-range growth forecasts are considered in planning for future landfill capacity. In addition, the city currently exceeds statewide goals for reducing solid waste and is therefore expected to reduce solid waste volumes in the future. All projects are required to comply with San Francisco's construction and demolition debris recovery and recycling and composting ordinances. As with the proposed project, compliance with these ordinances would reduce the solid waste generation from construction and operation of reasonably foreseeable development projects.

Although reasonably foreseeable development projects could incrementally increase total waste generation from the city by increasing the number of residents and excavation, demolition, and remodeling activities associated with growth, the increasing rate of landfill diversion citywide through recycling, composting, and other methods would result in a decrease of total waste that requires deposition into the landfill. Given the city's progress to date on diversion and waste reduction and given the future long-term capacity available at the Recology Hay Road Landfill and other area landfills, reasonably foreseeable development projects would be served by a landfill with sufficient permitted capacity to accommodate their solid waste disposal needs. For these reasons, the proposed project, in combination with reasonably foreseeable future projects, would have less-than-significant cumulative impacts related to solid waste.

CONCLUSION

Based on the above, the proposed project would not combine with reasonably foreseeable projects to create a significant cumulative impact on utilities and service systems, and this impact would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

This page left intentionally blank.

E.13 Public Services

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
13. PUBLIC SERVICES. 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 such as fire protection, police protection, schools, parks, or other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project's impacts to parks are discussed in Section E.11, Recreation. Impacts to other public services are discussed below.

Impact PS-1: The proposed project would increase demand for police protection, fire protection, and other government services, but not to an extent that would require new or physically altered governmental facilities, the construction of which could cause significant environmental impacts. (*Less than Significant*)

FIRE PROTECTION AND MEDICAL EMERGENCY SERVICE

The San Francisco Fire Department provides fire suppression and emergency medical services in the city, including the project site. In addition, several privately-operated ambulance companies are authorized to provide advanced life support services. The fire department responds to non-life-threatening fire and medical emergencies (Code 2) as well as life-threatening fire and medical emergencies (Code 3). Response times are measured from the time a unit is dispatched to the time the unit arrives at the scene. According to San Francisco's Emergency Medical Services Agency policy, the target response time for a life-threatening emergency medical incident should be within 10 minutes 90 percent of the time.⁹⁶ In fiscal year 2017–2018, 93 percent of ambulances arrived on scene within 10 minutes. The fire department is on track to meet its target in fiscal year 2018–2019 as well.⁹⁷

⁹⁶ City and County of San Francisco, Mayor's 2017-2018 and 2018-2019 Proposed Budget, Fire Department, Available online at: https://sfmayor.org/sites/default/files/CSF_Budget_Book_2017_Final_CMYK_LowRes.pdf. Accessed: June 17, 2019.

⁹⁷ City and County of San Francisco, Ambulance Response to Life-Threatening Emergencies, 2018, Available online at: <https://sfgov.org/scorecards/public-safety/ambulance-response-life-treatening-emergencies> Accessed: June 17, 2019.

The fire department consists of three divisions, which are subdivided into 10 battalions and 45 active stations throughout the city. The project site would be served by Station 1, located at 935 Folsom Street, approximately 0.3 mile southeast of the project site.⁹⁸ As discussed in Section E.2, Population and Housing, the proposed project would add approximately 1,086 residents and 11 employees on the project site. The increased population resulting from the proposed project would be expected to increase demand for fire protection and emergency medical services. However, this increase in demand would not be substantial given the overall demand for such services on a citywide basis. Furthermore, the fire department conducts ongoing assessments of its service capacity and response times to maintain acceptable service levels, given the demand resulting from changes in population.

The proposed project would comply with the applicable requirements of the California Fire Code, which includes requirements pertaining to fire protection systems, provision of state-mandated fire alarms, fire extinguishers, appropriate building access and egress, and emergency response notification systems. In addition, the proposed project would be required to comply with the California Fire Code requirements pertaining to high rise structures as well as approved water supply capable of supplying the required flow for fire protection. Moreover, the proximity of the project site to Fire Station No. 1 would help minimize fire department response times should incidents occur at the project site. As such, the proposed project would not require the construction of new, or alteration of existing fire protection facilities. This impact would be less than significant, and no mitigation would be required. This topic will not be discussed in the EIR.

POLICE PROTECTION SERVICES

The San Francisco Police Department, headquartered at 850 Bryant Street in the Hall of Justice (approximately 0.70 mile southeast of the project site), provides police protection services for the city. San Francisco Police Department's Tenderloin Station, at 301 Eddy Street, is the nearest police station located approximately 0.25-mile northwest of the project site.⁹⁹ As discussed in Section E.2, Population and Housing, the proposed project would add approximately 1,086 residents and 11 employees on the project site. This increased population resulting from the proposed project would be expected to increase demand for police protection services. The police department conducts ongoing assessments of its staffing and facility needs as part of the city's annual operating and capital budget process. This increase in demand would not be substantial given the overall demand for such services on a citywide basis. As such, the proposed project would not require the construction of new, or alteration of existing police protection facilities. This impact would be less than significant, and no mitigation would be required. This topic will not be discussed in the EIR.

⁹⁸ San Francisco Fire Department, Fire Station Locations, <https://sf-fire.org/sites/default/files/FileCenter/Documents/1975-Station%20Location%20Map%20-%20w%20FS51.pdf>, accessed February 7, 2019.

⁹⁹ San Francisco Police Department, Police District Maps, <http://sanfranciscopolice.org/police-district-maps>, accessed February 7, 2019.

SCHOOLS

The San Francisco Unified School District operates San Francisco's public schools. During the 2017–2018 academic year, the school district managed 117 schools (75 elementary schools, 16 middle schools, 18 high schools, five alternative schools, and two continuation schools), with a total enrollment of 60,263 students.¹⁰⁰ The project site is within the boundary of Webster Elementary School, that feeds into Lick Middle School.¹⁰¹ Under the current system, school district students are not automatically assigned to a particular school but, rather, entered into a diversity index lottery system in which families can request to be enrolled in schools anywhere in the district. The system assigns students to schools according to several factors, including parental choice, school capacity, and special program needs.¹⁰²

To analyze the demand on schools resulting from implementation of the proposed project, estimates are made regarding the number of students that would be generated by the proposed project. In 2018, Lapkoff & Gobalet Demographic Research, Inc. conducted a study to evaluate variations in student generation rates between different San Francisco developments.¹⁰³ The study noted that, overall, student generation rates are affected by several factors, including the size of the unit, cost of housing (including market-rate vs. affordable units), unit occupancy type (rental vs. ownership), housing type (e.g. high-rise, townhouse, garden-style housing), and the neighborhood type. According to the study, there are very few students in the large apartment and condominium complexes, even when the buildings contain some below-market-rate units.¹⁰⁴

Based on a student generation rate employed by the SFUSD of 0.203 students per dwelling unit, the proposed project could generate up to approximately 94 K–12 students,¹⁰⁵ or approximately 0.15 percent increase to the 2017-2018 SFUSD student enrollment. However, some of the students generated by the project might already attend schools operated by SFUSD, while others might attend private schools.

It is anticipated that SFUSD would be able to accommodate the additional 94 students generated by the proposed project. In addition, the Leroy F. Greene School Facilities Act of 1998, or Senate

100 California Department of Education, Educational Demographics Office, Fiscal, Demographic, and Performance Data on California's K–12 Schools, 2018. Available online at: <https://www.ed-data.org/district/San-Francisco/San-Francisco-Unified>. Accessed: June 19, 2019.

101 San Francisco Unified School District, 2016-2017 School Year Location Map. Available online at: http://www.sfusd.edu/en/assets/sfusd-staff/enroll/files/2016-17/2016-17_schools_map.pdf. Accessed: February 7, 2019.

102 San Francisco Unified School District, History of the Student Assignment in the San Francisco Unified School District, 2011. Available online at: <http://www.sfusd.edu/zh/assets/sfusd-staff/enroll/files/SFUSD-Presentation-Handouts-1-2016-09-21.pdf>. Accessed: June 19, 2019.

103 Lapkoff & Gobalet Demographic Research, Inc., Demographic Analyses and Enrollment Forecasts for the San Francisco Unified School District, February 16, 2018, p. 2, <http://www.sfusd.edu/en/assets/sfusd-staff/about-SFUSD/files/demographic-analyses-enrollment-forecast.pdf>. Accessed February 7, 2019.

104 Lapkoff & Gobalet Demographic Research, Inc., Demographic Analyses and Enrollment Forecasts for the San Francisco Unified School District, February 16, 2018, p. 2, <http://www.sfusd.edu/en/assets/sfusd-staff/about-SFUSD/files/demographic-analyses-enrollment-forecast.pdf>. Accessed February 7, 2019.

105 City and County of San Francisco, Central SoMa Plan, Case No. 2011.1356E, Certified December 17, 2018. Available online at: <https://sf-planning.org/area-plan-eirs>. Accessed: February 7, 2019.

Bill 50, authorizes school districts to levy developer fees to finance the construction or reconstruction of school facilities. These fees are intended to address increased educational demands on the school district resulting from new development. For these reasons, implementation of the proposed project would not result in a substantial unmet demand for school facilities. Thus, the proposed project would not require the construction of new, or alteration of existing school facilities and this impact would be less-than-significant. No mitigation measures are required. This topic will not be discussed in the EIR.

OTHER PUBLIC SERVICES

The proposed project would also incrementally increase the demand for other governmental services and facilities, such as libraries. The San Francisco Public Library operates 27 branches throughout San Francisco, with the closest library (the Main Library branch) located approximately 0.5 miles southwest of the project site. As discussed in Section E.2, Population and Housing, the proposed project would add approximately 1,086 residents and 11 employees on the project site. The increased population resulting from the proposed project would be expected to increase demand on library services. However, in the context of overall citywide demand for library services, the population increase resulting from the proposed project would not be substantial. Therefore, implementation of the proposed project would not require the construction of new, or alteration of existing public facilities, including library facilities. This impact would be less than significant, and no mitigation would be required. This topic will not be discussed in the EIR.

Impact C-PS-1: The proposed project, combined with reasonably foreseeable future projects in the vicinity, would not result in a significant cumulative impact related to public services. (*Less than Significant*)

The geographic contexts for cumulative fire, police, and library impacts are the police, fire, and library service areas, while the geographic context for cumulative school impacts is the school district service area. The reasonably foreseeable future projects within 0.25 mile of the project site or, in the case of schools, within the school district, in combination with the proposed project, would increase the population in the area, leading to an increase in demand for public services, including fire and police protection, school services, and library services. These essential city service providers continually assess demand, based on anticipated growth and service needs. By analyzing their service metrics, these agencies and services are able to adjust staffing, capacity, response times, and other measures of performance. As a result, the proposed project in combination with cumulative projects would not result in any service gap in fire, police, schools, or library services. Cumulative projects would also be required to contribute school fees, which would provide needed improvements in school services. Therefore, the proposed project would not combine with reasonably foreseeable future projects in the project vicinity to result in need for the construction of new, or alteration of existing public services facilities, and thus result in a significant cumulative impact related to public services. Cumulative impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

E.14 Biological Resources

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
14. BIOLOGICAL RESOURCES.					
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is currently a surface parking lot and completely covered by impervious surfaces. The project site does not contain federally protected wetlands as defined by section 404 of the Clean Water Act, riparian habitat, or other sensitive natural communities. In addition, the project site is not located within an adopted habitat conservation plan, a natural community conservation plan, or other approved local, regional, or state habitat conservation plan areas. Therefore, topics E.14(b), E.14(c), and E.14(f) are not applicable to the proposed project.

Impact BI-1: The proposed project would not have a substantial adverse effect, either directly or indirectly through habitat modifications, on any special-status species and would not interfere with the movement of native resident or wildlife species or with established native resident or migratory wildlife corridors. (*Less than Significant*)

The project site is covered entirely by impervious surfaces. While there is no vegetation onsite, five trees are located adjacent northeast of the project site along the property line at 460 Jessie Street. Due to the developed nature of the project site and the surrounding area, the project site does not provide suitable habitat for any rare or endangered plant or wildlife species. The existing trees adjacent to the project site to the northeast at 460 Jessie Street could support habitat for migratory nesting birds protected under the California Fish and Game Code or the Migratory Bird Treaty Act (MBTA). However, these trees would not be removed as a result of the proposed project and the project would not directly affect habitat for migratory nesting birds.

Structures in an urban setting may present risks for birds as they traverse their migratory paths due to building location and/or features. The city has adopted guidelines to address this issue and provided regulations for bird-safe design within the city.¹⁰⁶ Section 139, Standards for Bird-Safe Buildings, of the planning code establishes building design standards to reduce avian mortality rates associated with bird strikes. The building standards are based on two types of hazards: 1) location-related hazards which pertain to new buildings within 300 feet of an urban bird refuge, and 2) feature-related hazards such as free-standing glass walls, wind barriers, skywalks, balconies, and greenhouses on rooftops that have unbroken glazed segments 24 square feet or larger in size. Any project that contains building-feature hazards must apply bird-safe glazing treatments on 100 percent of the feature in compliance with section 139.

The project site is not located within 300 feet of an Urban Bird Refuge; therefore, the standards for location-related hazards would not apply.¹⁰⁷ The proposed project would be required to comply with the building feature-related hazard standards of section 139 by using bird-safe glazing treatments on 100 percent of any building feature-related hazards such as free-standing glass walls, wind barriers, and balconies. Compliance with the city's bird-safe building standards would ensure the proposed project does not interfere with the movement of a native resident or wildlife species, or with an established native resident or migratory wildlife corridor.

For the reasons stated above, the proposed project would result in less-than-significant impacts to special-status species and native resident, wildlife species, or migratory birds. No mitigation measures are required. This topic will not be discussed in the EIR.

¹⁰⁶ San Francisco Planning Department. Standards for Bird-Safe Buildings. Available http://default.sfplanning.org/publications_reports/bird_safe_bldgs/Standards%20for%20Bird%20Safe%20Buildings%20-%202011-30-11.pdf. Accessed February 10, 2019.

¹⁰⁷ San Francisco Planning Department. 2014. Urban Bird Refuge Map. Available http://maps.sfplanning.org/Urban_Bird_Refuge_Poster.pdf. Accessed February 10, 2019.

Impact BI-2: The proposed project would not conflict with the City's local tree ordinance. (*Less than Significant*)

The city's Urban Forestry Ordinance, Public Works Code sections 801 et seq., requires a permit from Public Works to remove any protected trees.¹⁰⁸ Protected trees include landmark trees, significant trees, or street trees located on private or public property anywhere within the territorial limits of the City of San Francisco.

The proposed project does not involve the removal of an existing tree. The proposed project would retain the existing five trees northeast of the project site at 460 Jessie Street and add eight new street trees along the frontage of Jessie Street in compliance with the city's Urban Forestry Ordinance. The project sponsor would be required to obtain a specific Tree Protection Plan from an International Society of Arboriculture certified arborist to protect the five adjacent trees during construction.¹⁰⁹ Therefore, the proposed project would not conflict with the city's local tree ordinance and this impact would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-BI-1: The proposed project, in combination with reasonably foreseeable projects, would not result in a significant cumulative impact related to biological resources. (*Less than Significant*)

The project site and the surrounding area do not currently support any candidate, sensitive, or special-status species, wetlands as defined by section 404 of the Clean Water Act, riparian habitat, or any other sensitive natural community identified in local or regional plans, policies, or regulations. Cumulative development projects identified in Table 2 would also be subject to the requirements of the MBTA, California Fish and Game Code, and the city's bird-safe building standards and Urban Forestry Ordinance. Therefore, the proposed project would not combine with cumulative development projects to result in a cumulative impact related to biological resources and cumulative impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

108 San Francisco Public Works Code. 1995. Article 16: Urban Forestry Ordinance. Available https://sfenvironment.org/sites/default/files/agenda/attach/public_works_code_groves_explanatory_documents_consolidated.pdf. Accessed February 10, 2019.

109 San Francisco Department of Building Inspection. 2008. The Tree Protection Legislation. https://sfdbi.org/ftp/uploadedfiles/dbi/Key_Information/TreeProtectionLegislation.pdf. Accessed April 17, 2019.

This page left intentionally blank.

E.15 Geology and Soils

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
15. GEOLOGY AND SOILS. 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed project would connect to the city's existing combined sewer system, which is the wastewater conveyance system for San Francisco, and would not use septic tanks or other onsite land disposal systems for sanitary sewage. Therefore, topic E.15(e) is not applicable to the proposed project.

The following discussions are based on the information and findings provided in the *preliminary geotechnical investigation* completed by Langan Engineering and Environmental Services, Inc on August 18, 2017.¹¹⁰ The preliminary geotechnical investigation relied on available subsurface information in the site vicinity to develop preliminary conclusions and recommendations. Pursuant to the geotechnical report, the specific geologic units beneath the project site are as follows (from shallowest to deepest):

- *Sandy Fill*: Sandy fill depths across the project site range from approximately 5 to 10 feet thick and 35 to 40 feet bgs.
- *Native Sand*: Native sand under the project site is medium dense and is approximately 20 feet thick and 35 to 40 feet bgs.
- *Marsh Deposit*: Marsh deposits on the site range from 5 to 15 feet thick and 35 to 40 feet bgs.
- *Sand*: The dense to very dense sand below the marsh deposit is of the Colma formation and is approximately 40 feet thick and 80 feet bgs.
- *Old Bay Clay*: The old bay clay on the site consists of stiff to hard sandy clay and is approximately 5 to 15 feet thick. The top of the old bay clay layer is located at approximately 80 to 90 feet bgs.
- *Bedrock*: Bedrock is likely located at approximately 200 feet bgs.

According to the preliminary geotechnical report, the loose to medium dense sandy fill, native sand, and marsh deposit, that likely extend 35 to 40 feet bgs, are not suitable for supporting the proposed project. Therefore, the proposed building and three-level below-grade parking structure may be supported on a mat foundation provided the soil beneath the mat is improved to the top of the dense to very dense sand. Ground improvement may include soil-cement-columns or drilled displaced columns extending at least 10 feet into the dense sand below the marsh deposit. Alternatively, the structure may be supported on deep foundations gaining support in dense to very dense sand beneath the marsh deposit. A mat or a structurally supported slab can be used with deep foundations.¹¹¹ As such, to construct the three-level below-grade parking structure, and a 10-foot thick mat, it is anticipated a 55-foot excavation is required for the proposed project.

Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic ground-shaking, liquefaction, lateral spreading, or landslides. (*Less than Significant*)

STATE REGULATIONS TO ADDRESS SEISMIC HAZARDS

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Alquist-Priolo Act). The Alquist-Priolo Act (Public Resources Code section 2621 et seq.) is intended to reduce the risk to life and property

¹¹⁰ Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

¹¹¹ Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location and construction of most types of structures intended for human occupancy¹¹² over active fault traces and strictly regulates construction in the corridors along active faults (e.g., earthquake fault zones).

California Building Standards Code. The California Building Standards Code, or state building code, is codified in title 24 of the California Code of Regulations. The state building code provides standards that must be met to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the state. The state building code generally applies to all occupancies in California, with modifications adopted in some instances by state agencies or local governing bodies. The current state building code incorporates, by adoption, the International Building Code of the International Code Council, with the California amendments. These amendments include building design and construction criteria that have been tailored for California earthquake conditions.

Chapter 16 of the state building code deals with structural design requirements governing seismically resistant construction (section 1604), including, but not limited to, factors and coefficients used to establish a seismic site class and seismic occupancy category appropriate for the soil/rock at the building location and the proposed building design (sections 1613.5 through 1613.7). Chapter 18 includes, but is not limited to, the requirements for foundation and soil investigations (section 1803); excavation, grading, and fill (section 1804); allowable load-bearing values of soils (section 1806); foundation and retaining walls (section 1807); and foundation support systems (sections 1808 through 1810). Chapter 33 includes, but is not limited to, requirements for safeguards at work sites to ensure stable excavations and cut-and-fill slopes (section 3304) as well as the protection of adjacent properties, including requirements for noticing (section 3307). Appendix J of the state building code includes, but is not limited to, grading requirements for the design of excavation and fill (sections J106 and J107), specifying maximum limits on the slope of cut-and-fill surfaces and other criteria, required setbacks and slope protection for cut-and-fill slopes (J108), and erosion control through the provision of drainage facilities and terracing (sections J109 and J110). San Francisco has adopted Appendix J of the state building code, with amendments to J103, J104, J106, and J109, as articulated in the local building code.

California Division of Occupational Safety and Health Regulations. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in California Division of Occupational Safety and Health regulations (Title 8).

¹¹² With reference to the Alquist-Priolo Act, a structure for human occupancy is defined as one “used or intended for supporting or sheltering any use or occupancy that is expected to have a human occupancy rate of more than 2,000 person-hours per year” (California Code of Regulations, title 14, division 2, section 3601[e]).

LOCAL REGULATIONS TO ADDRESS SEISMIC HAZARDS

San Francisco Subdivision Code. Section 1358, Preliminary Soils Report, of the San Francisco Subdivision Code requires developers to file soil reports, indicating any soil characteristics that may create hazards and identifying measures to avoid soil hazards and prevent grading from creating unstable slopes. The ordinance requires a state-registered civil engineer to prepare the soils report.

As discussed below, to ensure that the potential for adverse geologic, soil, and seismic hazards is adequately addressed, San Francisco relies on the state and local regulatory review process as well as building permits approved pursuant to the California Building Standards Code (California Code of Regulations, Title 24); the San Francisco Building Code, which is the state building code plus local amendments that supplement the state code; the building department's implementing procedures, including administrative bulletins and information sheets; and the Seismic Mapping Hazards Act (Public Resources Code sections 2690 to 2699.6).

IMPACT ANALYSIS

Fault Rupture

There are no known active or potentially active faults crossing the project site and the project site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act. Therefore, the potential for fault rupture to occur at the project site is low and therefore the proposed project would not increase any risk associated with fault rupture. Thus, this impact would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Seismic Ground Shaking

The project site is located within a 30-mile radius of several major active faults, including the San Andreas (7.5 miles), Hayward (10.6 miles), and San Gregorio (11.2 miles) faults. According to the U.S. Geologic Survey (USGS), the overall probability of a magnitude 6.7 or greater earthquake to occur in the San Francisco Bay Area in the next thirty years is 72 percent.¹¹³ The Preliminary Geotechnical Report estimated strong to very strong shaking is expected to occur during the project's lifetime. The proposed project would be required to comply with the provisions of the San Francisco Building, California Building Code, and the recommendations of the design-level geotechnical study in accordance with section 1803 of the San Francisco Building Code to address impacts from seismic ground shaking.

In addition, new buildings taller than 240 feet are required to comply with the building department's *Interim Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard*

¹¹³ Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

Engineering Design Review for New Tall Buildings (Information Sheet S-18).¹¹⁴ The interim guidelines supplement and clarify the information in the city's *Guidelines and Procedures for Structural Design Review* (Administrative Bulletin-082),¹¹⁵ as well as the city's *Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures* (Administrative Bulletin-083).¹¹⁶ The proposed project would construct a 274-foot-tall building (with an additional 10 feet for rooftop mechanical equipment) and therefore is subject to these guidelines. Compliance with these guidelines would require a peer review of the design-level geotechnical study by an engineering design review team to determine the adequacy of the building's foundation and structural design to support the proposed building.¹¹⁷ The proposed project would also be required to implement a monitoring program to evaluate settlement at the project site during a 10-year period once the certificate of final completion and occupancy is issued.¹¹⁸

The building department would review the project's final structural and foundation plans (construction documents) to ensure the proposed project conforms with the measures recommended in the site-specific geotechnical reports and the recommendations made by the engineering design review team as required by Information Sheet S-18, Administrative Bulletin-082, and Administrative Bulletin-083. Therefore, the proposed project would not increase risks associated with ground shaking in the event of an earthquake, and impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Liquefaction and Lateral Spreading

Liquefaction and lateral spreading of soils can occur when ground shaking causes saturated soils to lose strength due to an increase in pore pressure. According to the California Geologic Survey seismic hazard zone map for the City and County of San Francisco, the project site is within a designated liquefaction hazard zone.¹¹⁹ The preliminary geotechnical report determined the project site is underlain with loose to medium dense sand and the groundwater level is estimated

114 City and County of San Francisco. 2017. Interim Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review for New Tall Buildings (Information Sheet [IS] S-18). Available <https://sfdbi.org/sites/default/files/IS%20S-18.pdf>. Accessed February 10, 2019.

115 San Francisco Building Code. 2008. Guidelines and Procedures for Structural Design Review (Administrative Bulletin-082). Available http://www.gsweventcenter.com/GSW_RTC_References/2008_0325_AB_082.pdf. Accessed February 10, 2019.

116 City and County of San Francisco. 2007. Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures (Administrative Bulletin-083). Available https://sfdbi.org/ftp/uploadedfiles/dbi/meeting_information/structural/supporting/2008/AB_083_Draft8.pdf. Accessed February 10, 2019.

117 City and County of San Francisco. 2017. Interim Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review for New Tall Buildings (Information Sheet [IS] S-18). Available <https://sfdbi.org/sites/default/files/IS%20S-18.pdf>. Accessed February 10, 2019.

118 Ibid.

119 California Geologic Survey. Earthquake Zones of Required Investigation San Francisco North Quadrangle. Available http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/SAN_FRANCISCO_NORTH_EZRIM.pdf. Accessed February 10, 2019.

at 15 to 20 feet bgs.¹²⁰ The loose to medium dense sand could be susceptible to liquefaction-induced ground settlement and strength loss during a major earthquake. Therefore, the preliminary geotechnical report determined that the potential for liquefaction to occur is high at the project site and up to 2 inches of settlement due to liquefaction could occur. The proposed project would be required to comply with the Seismic Hazards Mapping Act and the mandatory provisions of the California Building Code and San Francisco Building Code. Compliance with these mandatory provisions requires a design-level geotechnical report to evaluate and address the potential for liquefaction and failure-prone soils at the project site. The proposed project would be required to implement the recommendations of the design-level geotechnical report. The building department would review the project's structural and foundation plans to ensure they are in conformance with the measures recommended in the design-level geotechnical reports and recommendations made by the engineering design review team as required by Information Sheet S-18, Administrative Bulletin-082, and Administrative Bulletin-083. Therefore, the proposed project would not increase any risk associated with liquefaction and lateral spreading, and impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Landslides

The project site and the surrounding area are relatively flat. Based on the Community Safety Element of the San Francisco General Plan, the project site is not located within a mapped landslide zone.¹²¹ Furthermore, the project site is not within a designated earthquake-induced landslide zone as shown on the California Geological Survey seismic hazard zone map for the area. Therefore, the proposed project would not increase any risk associated with earthquake-induced landslides, and impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact GE-2: The proposed project would not result in substantial soil erosion or loss of topsoil. (*Less than Significant*)

The project site is relatively flat and completely covered with impervious surfaces. The proposed project would excavate the project site approximately 55 feet bgs and remove approximately 55,850 cubic yards of soil from the project site to construct the three-level parking garage. Erosion could occur due to soil exposure during subgrade work.

The project sponsor and its contractor would be required to comply with section 146, Construction Site Runoff Control, of the Public Works Code which requires all construction sites to implement best management practices (BMPs) to minimize surface runoff erosion and sedimentation.¹²²

120 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

121 San Francisco Planning Department. San Francisco General Plan, Community Safety Element. Available http://generalplan.sfplanning.org/Community_Safety_Element_2012.pdf. Accessed February 10, 2019.

122 SFPUC. 2018. San Francisco Construction Site Runoff Control Program. Available <https://sfwater.org/index.aspx?page=235>. Accessed February 10, 2019.

Pursuant section 146.7, if construction activities disturb 5,000 square feet or more of ground surface, the project sponsor must develop an erosion and sediment control plan. The erosion and sediment control plan must be submitted to SFPUC for review and approval prior to commencing construction related activities. The erosion and sediment control plan would identify BMPs to control discharge of sediment and other pollutants from entering the city's combined sewer system during construction. Compliance with section 146 of the Public Works Code would ensure that the proposed project would not result in substantial loss of topsoil or soil erosion. Therefore, impacts related to loss of topsoil or substantial soil erosion during construction would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact GE-3: The proposed project would not 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*)

According to the preliminary geotechnical study, the project site is underlain by loose to medium dense sandy fill, native sand, and marsh deposit, approximately 35 to 40 feet bgs, with dense to very dense sand extending below to a depth of at least 80 feet.¹²³ A 5 to 15 foot thick stiff to hard sand clay layer, locally referred to as old bay clay, may be present below the dense to very dense sand at depths of 80 to 90 feet bgs. Groundwater is anticipated within 15 to 20 feet bgs based on sites in the vicinity of the project site.

The project site would be excavated approximately 55 feet bgs and 55,850 cubic yards of soil would be removed from the project site for construction of the three-level parking garage. During excavation activities, the loose to medium dense sand could become unstable, potentially causing settlement of adjacent structures and streets. The preliminary geotechnical report recommends the use of shoring and underpinning during construction activities to support the sides of the excavation, adjacent buildings, and foundation of the building. Due to the shallow groundwater level, the preliminary geotechnical report also recommends implementation of a dewatering system to lower the groundwater at least 3 feet below the excavation level. The dewatering system would maintain the water level at the specified depth until the building can resist hydrostatic loads.¹²⁴ The project sponsor is required to implement the final shoring and dewatering systems in accordance with the recommendations of the design-level geotechnical report, and the requirements of the California Building Code and San Francisco Building Code. Prior to dewatering activities, the project sponsor is also required to notify the SFPUC and obtain a batch wastewater discharge permit.¹²⁵ Groundwater encountered during construction of the proposed project would be subject to the requirements of Public Works Code article 4.1 (Industrial Waste)

123 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

124 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

125 SFPUC. 2018. Waste Water Discharge Permits. Available <https://sfwater.org/index.aspx?page=498>. Accessed February 10, 2019.

which requires groundwater meet specified water quality standards before it may be discharged into the sewer system.

Adherence to California and San Francisco Building Code requirements would address any potential impacts related to unstable soils as part of the design-level geotechnical investigation prepared for the proposed project. Furthermore, the building department would review background information, including geotechnical and structural engineering reports, to ensure the suitability of the soils on the project site for development of the proposed project. Therefore, potential impacts related to construction on unstable soils would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact GE-4: The proposed project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, but would not create substantial risks to life or property. (*Less than Significant*)

Expansive soils expand and contract in response to changes in soil moisture, most notably when near surface soils change from saturated to a low-moisture content condition, and back again. The presence of expansive soils is typically based on site-specific data. As discussed in the preliminary geotechnical report, the project site is underlain by loose to medium dense sandy fill, native sand, and marsh deposit, approximately 35 to 40 feet bgs, with dense to very dense sand extending below to a depth of at least 80 feet.¹²⁶ A 5 to 15 foot thick stiff to hard sand clay layer, locally referred to as old bay clay, may be present below the dense to very dense sand at depths of 80 to 90 feet bgs. The old bay clay, where present, is likely underlain by dense to very dense sand extending to bedrock. The preliminary geotechnical report estimates bedrock is 200 feet bgs.¹²⁷ Anticipated excavation for the three-level parking garage and foundation is expected to remove the majority of existing loose to medium dense sandy fill, leaving mostly the underlying dense to very dense sand. However, as recommended by the preliminary geotechnical report, the presence of old bay clay at the project site should be confirmed by the design-level geotechnical investigation to determine the potential for expansive soils at the site. The project sponsor is required to complete a design-level geotechnical report and implement its recommendations to address impacts related to expansive soils at the project site in accordance with the San Francisco Building Code. Therefore, impacts related to expansive soils would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact GE-5: The proposed project would not directly or indirectly destroy a unique paleontological resource. (*Less than Significant*)

Paleontological resources, or fossils, are the remains, imprints, or traces of animals, plants, and invertebrates, from a previous geological period. Collecting localities and the geologic formations

126 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

127 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

containing those localities are also considered paleontological resources, representing a limited, nonrenewable resource. Once destroyed, they cannot be replaced.

The potential to affect fossils varies with the depth of disturbance and previous disturbance. The logistics of excavation also affect the possibility of recovering scientifically significant fossils because information regarding location, vertical elevation, geologic unit of origin, and other aspects of context is critical to the significance of any paleontological discovery.

To identify impacts on paleontological resources, the paleontological sensitivity of geologic units present within the project site were identified. Paleontological sensitivity is an indicator of the likelihood of a geologic unit to yield fossils.¹²⁸ The fossil-yielding potential of geologic units in a particular area depends on the geologic age and origin of the units, as well as on the processes they have undergone, both geologic and anthropogenic.¹²⁹ The potential for a project to affect paleontological resources is related to ground disturbance. Ground disturbance would take place during project construction; therefore, this impact analysis addresses construction impacts.

The native sand and marsh deposit, which underlies the project site, have a low paleontological sensitivity as these geologic units are unlikely to yield paleontological resources. The Colma formation and old bay clay are considered moderately sensitive for paleontological resources. The proposed project would excavate the site approximately 55 feet bgs and remove approximately 55,850 cubic yards of soil to construct the below-grade parking levels and foundation. Based on the depth of excavation of 55 feet bgs, the proposed project would not encounter the Colma formation or the old bay clay as those soil layers are located approximately 80 to 90 feet bgs. Therefore, it is unlikely the proposed project would disturb, destroy, or damage significant paleontological resources. This impact would be a less than significant impact, and no mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-GE-1: The proposed project combined with reasonably foreseeable projects in the vicinity, would not result in a significant cumulative impact related to geology and soils. (*Less than Significant*)

The geographic context for cumulative analysis of impacts on geology and soils is generally site-specific and comprises the project site and immediately adjacent properties. Reasonably foreseeable cumulative projects could require various levels of excavation or cut-and-fill, which could affect local geologic conditions. The building code regulates construction in the City of San Francisco, and all development projects would be required to comply with its requirements to ensure maximum feasible seismic safety and minimize geologic impacts. Site-specific measures identified in project-specific geotechnical reports would be implemented as site conditions warrant to reduce any potential impacts from unstable soils, ground shaking, liquefaction, or lateral spreading.

¹²⁸ Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Available: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx. Accessed: April 18, 2019.

¹²⁹ Anthropogenic means caused by human activity.

The project would entail excavation to a depth of approximately 55 feet bgs and remove approximately 55,850 cubic yards of soil from the project site to construct the three-level parking garage. The proposed project would require shoring and underpinning during construction activities to support the sides of the excavation, adjacent buildings, and foundation of the building. The proposed project would also require a dewatering system and obtain a batch wastewater discharge permit from SFPUC. The project sponsor would be required to implement the final shoring and dewatering systems in accordance with the recommendations of the design-level geotechnical report, and the requirements of the California Building Code and San Francisco Building Code. The development projects listed in Table 2 would all be subject to the same seismic safety standards and design review procedures applicable to the proposed project. Compliance with the seismic safety standards and the design review procedures would ensure that the effects from nearby cumulative projects would be reduced to less-than-significant levels. As such, cumulative impacts related to geology and soils would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Like the proposed project, all reasonably foreseeable cumulative projects that would disturb more than 5,000 square feet of land are required to prepare and implement an erosion and sediment control plan pursuant to the Construction Site Run-off Ordinance. Therefore, cumulative impacts related to soil erosion would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Paleontological impacts are generally site specific and highly localized. Therefore, the potential for the proposed project to combine with reasonably foreseeable cumulative projects to create a cumulative impact related to paleontological resources would be low. For these reasons, the proposed project, in combination with reasonably foreseeable future projects, would have less-than-significant cumulative paleontological resource impacts. This topic will not be discussed in the EIR.

E.16 Hydrology and Water Quality

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
16. HYDROLOGY AND WATER QUALITY.					
Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) result in substantial erosion or siltation onsite or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due a project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

According to SFPUC's 100-Year Storm Flood Risk Map, the project site is not located within a 100-year flood hazard area,¹³⁰ or an area identified as being subject to potential inundation in the event of a tsunami along the San Francisco coast or a dam or levee failure.¹³¹ Therefore, the

¹³⁰ San Francisco Floodplain Management Program. 2018. Northeast San Francisco Interim Floodplain Map. Available: https://sfgsa.org/sites/default/files/Document/SF_NE.pdf. Accessed February 5, 2019.

¹³¹ City and County of San Francisco, Community Safety Element of the San Francisco General Plan, 2012, Map 5 (Tsunami Hazard Zones San Francisco) and Map 6 (Potential Inundation Areas Due to Reservoir Failure), http://www.sf-planning.org/ftp/General_Plan/Community_Safety_Element_2012.pdf. Accessed April 18, 2019.

proposed project would not create a risk related to a release of pollutants due to inundation in a flood hazard, tsunami, or seiche zone and topic 14(d) is not applicable to the proposed project and is not discussed below.

Impact HY-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or conflict with or obstruct implementation of a water quality control plan. (*Less than Significant*)

CONSTRUCTION DEWATERING AND STORMWATER RUNOFF

The proposed project would involve excavation to a maximum depth of 55 feet bgs for construction of the building foundation and below grade parking garage. As discussed in Section E.15, Geology and Soils, excavation activities would require dewatering, given that the depth of groundwater is estimated between 15 and 20 feet bgs. Any groundwater encountered during construction would be subject to the requirements of article 4.1 of the San Francisco Public Works Code (Industrial Waste Ordinance), requiring groundwater meet specified water quality standards before it is discharged into the sewer system. The SFPUC must be notified regarding projects that necessitate dewatering and obtain a Batch Wastewater Discharge Permit from the SFPUC Wastewater Enterprise Collection System Division prior to any dewatering activities. The SFPUC may require additional water analysis prior to permit approval.

During construction, the proposed project would be required to comply with article 4.2 of the San Francisco Public Works Code. Specifically, the proposed project would comply with section 146 by implementing an erosion and sediment control plan. The erosion and sediment control plan would identify the BMPs and erosion and sedimentation control measures to prevent sediment from entering the city's combined sewer system. The construction BMPs that would most likely be implemented as part of the proposed project would address inspection and maintenance, water conservation, spill prevention and control, street cleaning, and prevention of illicit connection and discharge. These BMPs would minimize disturbance to the project site, adjacent areas, and storm drains and would retain sediment. The SFPUC's Construction Runoff Control Program staff enforces this requirement through periodic and unplanned site inspections. In addition, prior to the commencement of any land-disturbing activities, the project sponsor would be required to obtain a construction site runoff control permit.

Construction stormwater discharged to the city's combined sewer system would be subject to the requirements of article 4.1, which incorporates the requirements of the city's National Pollutant Discharge Elimination System (NPDES) permit and the federal Combined Sewer Overflow Control Policy. Stormwater drainage during construction would flow to the city's combined sewer system, where it would receive treatment at the Southeast Plant and would be discharged through an existing outfall or overflow structure in compliance with the existing pollutant discharge permit. Therefore, the project's compliance with applicable permits and regulatory requirements would reduce water quality impacts during construction and dewatering activities.

OPERATIONAL WASTEWATER AND STORMWATER DISCHARGES

During operation, wastewater discharges would be related to the proposed residential and commercial uses. Stormwater discharges would include runoff from streets, sidewalks, and other impervious surfaces. Wastewater and stormwater generated at the project site would be directed to the city's combined sewer system and treated to the standards of the NPDES permit for the Southeast Water Pollution Control Plant prior to discharge to the Pacific Ocean.

The proposed project would be required to implement a stormwater control plan in accordance with the city's stormwater management ordinance. The project sponsor would be required to submit a stormwater control plan for approval by SFPUC that complies with the Stormwater Design Guidelines to ensure the proposed project meets performance measures set by SFPUC related to stormwater runoff rate and volume. To meet the SFPUC's requirements, low-impact development features are proposed and would include vegetated sidewalk planting areas, permeable pavement, steel planter areas, and a rainwater cistern. These features would be designed to reduce the stormwater peak flow and volume from a two-year, 24-hour storm event by at least 25 percent, as required, which would reduce peak flows entering the combined sewer system during wet-weather events and minimize the potential for downstream or localized flooding.¹³² Compliance with San Francisco's Stormwater Design Guidelines would reduce the quantity and rate of stormwater runoff to the city's combined sewer system and improve the water quality of those discharges.

In summary, the proposed project's construction and operational activities would not result in significant water quality impacts or obstruct implementation of a water quality control plan. Furthermore, the proposed project would not violate water quality standards or release substantial additional sources of polluted runoff. This impact would be less than significant, and no mitigation measures are required. This topic will not be discussed in the EIR.

Impact HY-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin, nor would it conflict with a sustainable groundwater management plan. (*Less than Significant*)

The project site is located in the Downtown San Francisco Groundwater Basin. This basin is not used as a potable water source and there are no plans for development of this basin for groundwater production. Therefore, a sustainable groundwater management plan has not been adopted for the Downtown San Francisco Groundwater Basin. The project site is currently a surface parking lot and completely covered with impervious surfaces. The proposed project would not increase the amount of impervious surface at the project site; therefore, the proposed project would not result in any change in groundwater infiltration or runoff on the project site.

¹³² SFPUC. 2016. Stormwater Management Requirements and Design Guidelines. Available <https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026>. Accessed February 10, 2019.

As discussed in Section E.15, Geology and Soils, groundwater is expected to be encountered at 15 to 20 feet bgs at the project site.¹³³ The proposed project would excavate the project site to approximately 55 feet bgs for construction of the three-level parking garage. Therefore, groundwater would be encountered during excavation and dewatering activities during construction. The preliminary geotechnical report recommends implementation of a dewatering system to lower groundwater at least 3 feet below the excavation level and to maintain the water level at the specified depth until the building can resist hydrostatic loads.¹³⁴ Once dewatering is completed, groundwater levels would return to normal. The project would not require long-term dewatering and does not propose to extract any underlying groundwater supplies. Therefore, the proposed project would not substantially deplete groundwater resources, interfere with groundwater recharge, or conflict with a sustainable groundwater management plan. Impacts related to groundwater would be less than significant and no mitigation measures are required. This impact will not be discussed in the EIR.

Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation onsite or offsite; substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite; or impede or redirect flood flows. (*Less than Significant*)

The project site is covered entirely by impervious surfaces and no streams or creeks occur on the project site. The proposed project would not expand any existing impervious surfaces; therefore, site drainage would remain generally the same as existing conditions. The project would incrementally reduce the amount of impervious surface on the project site through implementation of low-impact design measures as required by the city's Stormwater Management Ordinance and Stormwater Management Requirements and Design Guidelines. Specifically, the proposed project would be required to reduce the existing stormwater rate and volume at the project site by 25 percent for a two-year 24-hour design storm with the implementation of low impact design measures. As discussed in Section A, Project Description, the proposed project would meet this requirement by installing vegetated sidewalk planting areas, permeable pavement, steel planter areas, and a rainwater cistern to manage onsite stormwater. In addition, the proposed project would plant street trees along the project's Jessie Street frontage. Therefore, the proposed project would not be expected to result in substantial erosion or flooding associated with changes in drainage patterns. The impact of the proposed project related to potential erosion or flooding would be less than significant and no mitigation measures are required. This topic will not be discussed in the EIR.

133 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

134 Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.

Impact C-HY-1: The proposed project, in combination with other reasonably foreseeable projects, would not result in a significant cumulative impact related to hydrology and water quality. (*Less than Significant*)

The proposed project would result in no impact with respect to release of pollutants due to inundation. Therefore, the project would not have the potential to combine with cumulative development projects to result in a cumulative impact related to this topic.

Like the proposed project, all cumulative development projects identified in Table 2 would be required to comply with the city's stormwater management ordinance and guidelines, and all stormwater and wastewater would be treated to the standards in the city's NPDES permit. Therefore, cumulative impacts related to increased run-off and water quality would be less than significant.

With regards to groundwater, the Downtown Groundwater Basin is not a potable water source. Further, upon completion of construction activities, the project would have no impact on groundwater levels. For these reasons, the project would not combine with reasonably foreseeable projects to result in cumulative groundwater impacts.

Overall, the proposed project would not combine with reasonably foreseeable future projects to result in cumulative impacts to hydrology and water quality. No mitigation measures are required. This topic will not be discussed in the EIR.

This page left intentionally blank.

E.17 Hazards and Hazardous Materials

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
17. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is not located within an airport land use plan area or within an airport land use plan, or within two miles of a public airport or public use airport which would result in a safety hazard or excessive noise for people residing or working in the area; therefore, topic E.15(e) is not applicable. The project site is not located within or adjacent to a wildland area; therefore, topic E.15(g) is not applicable.

Impact HZ-1: The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (*Less than Significant*)

Hazardous materials may be stored onsite during construction of the proposed project, such as fuel for construction equipment, paints, solvents, and other types of construction materials that may contain hazardous ingredients. Transportation of hazardous materials to and from the project

site would occur on designated hazardous materials routes, by licensed hazardous materials handlers, as required, and would be subject to regulation by the California Highway Patrol and the California Department of Transportation. Compliance with these regulations would reduce any risk from the routine transport, use, or disposal of hazardous materials to less than significant.

The proposed project's residential and commercial uses would likely result in the use of common types of hazardous materials, such as cleaning products and disinfectants. These products are labeled to inform users of their potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. For these reasons, hazardous materials used during project operation would not pose any substantial public health or safety hazards through their routine transport, use, or disposal. This impact would be less than significant, and no mitigation measures are required. This topic will not be discussed in the EIR.

Impact HZ-2: The proposed project is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5, but would not create a significant hazard to the public or the environment through reasonably foreseeable conditions involving the release of hazardous materials into the environment. (*Less than Significant*)

The project site is included on the list of hazardous materials sites compiled by the California Department of Toxic Substance Control pursuant to Government Code Section 65962.5. The project site is located in an area of San Francisco governed by article 22A of the Health Code, also known as the Maher Ordinance, meaning that it is known or suspected to contain contaminated soil and/or groundwater.¹³⁵ The overarching goal of the Maher Ordinance is to protect public health and safety by requiring appropriate handling, treatment, disposal and when necessary, remediation of contaminated soils that are encountered in the building construction process. Projects that disturb 50 cubic yards or more of soil that are located on sites with potentially hazardous soil or groundwater are subject to this ordinance. The proposed project would require excavation to a depth of 55 feet bgs and the disturbance of approximately 55,850 cubic yards of soil. Therefore, the proposed project is subject to the Maher Ordinance, which is administered and overseen by the San Francisco Department of Public Health (health department). The project sponsor submitted an application to the Maher Program and retained the services of a qualified professional to prepare a *phase I environmental site assessment* (site assessment) that meets the requirements of article 22A. The findings of the site assessment are discussed below.¹³⁶

To identify the site's potential inclusion on environmental databases and evaluate offsite environmental concerns, AllWest reviewed a site-specific radius report provided by Environmental Data Resources, Inc. which searched regulatory agency lists and databases for recorded sites within the industry standard search radii. According to the site assessment, by 1913 the project site was part of a United Light & Power Company facility. The facility included three warehouse buildings and a planning mill/machine shop in the east portion of the site and storage

135 San Francisco Planning Department, Expanded Maher Area Map, March 2015. Available online at https://www.sf-planning.org/ftp/files/publications_reports/library_of_cartography/Maher%20Map.pdf, accessed February 14, 2019.

136 AllWest Environmental, Environmental Site Assessment, 469 Stevenson Street, San Francisco, CA 94103, June 2016.

shed in the west portion of the site. The project site was subsequently developed (in the 1940s and 1950s) as a parking lot with a car rental office and fuel dispensing station on the northwestern portion of the site; the car rental office was demolished by 1970 and the site has since been used as a public parking lot. The subject property is identified as a former registered underground storage tank (UST) facility and as a HAZNET waste manifest site for disposal of contaminated soil during removal of the UST in 1998.

According to the site assessment, the abandoned UST was removed from the northwest portion of the property in 1998 during repaving of the subject parking lot. Although few details concerning the tank and its removal were readily available, the San Francisco Local Oversight Program (SFLOP) classified the activity as a UST Removal case rather than as a Leaking Underground Storage Tank case. This classification suggests SFLOP did not observe evidence of a release from the abandoned tank. During the tank removal, soil contamination was identified in excavation soils. According to regulatory records, 0.4507 ton of polychlorinated biphenyl (PCB)-contaminated soil and 0.2293 ton of liquids containing dissolved lead greater than 500 parts per million were removed from the subject property and disposed of offsite. Based on the identified previous property owners, the contamination origin is likely associated with former tenant, United Light & Power Company, or with a former utility substation that operated at the adjoining northeast property at 465 Stevenson Street from 1924 to the 1990s.

The site assessment notes that the former PG&E Substation T (now Clearway Energy's thermal power Station T) located adjacent to the project site to the northeast is identified on numerous contaminated sites databases for historical releases of PCBs, polynuclear aromatic hydrocarbons, toxic metals (e.g., lead; hexavalent chromium; arsenic), hydrocarbon solids; oxygenated solvents and other organic liquids to soil. The former PG&E Substation T property is identified on the RESPONSE database, Superfund Enterprise Management System-Archive (SEMS-ARCHIVE) database and EnviroStor contaminated sites database, as a historical UST facility, and, incorrectly, as a historical manufactured gas facility, as only the northeast portion (approximately 0.1 acre) of the Station T steam facility was occupied by the former Baldwin Manufactured Gas Plant. The Baldwin Manufactured Gas Plant was built at the present location of the Station T facility in 1882 to supply the Baldwin Hotel and Theater with gas; the works were called the Baldwin Gas Plant. After the Baldwin Hotel burned down in 1898, the hotel's gas works remained in existence until 1906, when the great earthquake and fire destroyed the entire area. The site then became entirely occupied by the Station T steam facility.¹³⁷

According to the site assessment, the Department of Toxic Substances Control issued a determination of "no further action" required in June 1993 for the former PG&E site. Although subsurface contamination remains, the Department of Toxic Substances Control likely issued the determination because drinking water in the area is considered non-potable and no drinking

137 Pacific Gas and Electric Company. 1991. Preliminary Endangerment Assessment Report for RP&E's Former Manufactured Gas Plant Sites, Station T, San Francisco. Available online at: https://www.envirostor.dtsc.ca.gov/public/deliverable_documents/2828092813/PG%26E-Station%20T%2C465%20Stevenson%20Street%2C%20SF_Vol%201%20of%202%20Preliminary%20Endangerment%20Assessment%20Report%20for%20PG%26E%20Former%20MGP%20Sites_04.19910001.pdf. Accessed: June 18, 2019.

water wells are present. The area is also capped with asphalt, concrete paving, and building foundations, which effectively limits human health exposure pathways and may also be a factor in the Department of Toxic Substances Control's determination.

AllWest identified the Clearway Energy operation at the adjacent northeast property as a registered UST facility, small quantity generator of hazardous wastes, a HAZNET waste manifest site, and as an Emissions Inventory facility for discharge of regulated air emissions. Two properties adjoining southeast across Jessie Street are identified as a historical auto station and as historical cleaners.

The project sponsor submitted a Maher Application to the San Francisco Department of Health in accordance with article 22A,¹³⁸ and the health department will determine if a complete Phase II Site Characterization and Work Plan should be submitted. The project sponsor would also be required to submit a site mitigation plan to the health department or other appropriate state or federal agencies, and to remediate any site contamination in accordance with an approved site mitigation plan prior to the issuance of the building permit. Furthermore, the proposed project would excavate approximately 55,850 cubic yards of soil to construct the three-level parking garage (55 feet bgs) which would remove most of the soil at the project site.

Based on the information and conclusions from the site assessment, and because of required compliance with article 22A, the proposed project would not result in a significant hazard to the public or environment due to the release of hazardous materials into the environment, such as contaminated soil and/or groundwater; the proposed project would result in a less than significant impact. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact HZ-3: The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school. (No Impact)

There are no schools located within 0.25-mile of the project site. The proposed project would have no impact related to emitting or handling hazardous materials within 0.25-mile of a school. This topic will not be discussed in the EIR.

Impact HZ-4: The proposed project would not expose people or structures to a significant risk of loss, injury or death involving fires, nor interfere with the implementation of an emergency response plan. (Less than Significant)

San Francisco ensures fire safety primarily through provisions of the building and fire codes. Final building plans are reviewed by the San Francisco Fire Department (as well as the building department), to ensure conformance with these provisions. In this way, potential fire hazards, including those associated with hydrant water pressures and emergency access, as well as access to the adjacent Clearway Energy Center, would be addressed during the permit review process.

¹³⁸ City and County of San Francisco Department of Public Health and Environmental Health. 2018. Maher Ordinance Application. PDF.

As discussed in Section A, Project Description, the project would require occasional street and sidewalk closures to allow for project construction activities, such as installation of the tower crane, mat foundation construction, or material deliveries. However, during this time, both Jessie and Stevenson streets would not be entirely closed or closed at the same time. It is not expected that construction activities would block Jessie Street for more than one week at a time. Jessie Street could be used for temporary staging of the tower crane; however, that has not been determined. It is anticipated that construction activities would only block 100 feet of Jessie Street for the width of the sidewalk and one travel lane primarily for the tower crane erection and dismantling. Emergency access to the project site, surrounding properties, and the adjacent Clearway Energy Center would not be compromised during project construction.

Implementation of the proposed project could add incrementally to congested traffic conditions in the immediate area in the event of an emergency evacuation. However, the proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan and this impact would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-HZ-1: The proposed project, in combination with other reasonably foreseeable projects, would not result in a significant cumulative impact related to hazardous materials. (*Less than Significant*)

The geographic context for an analysis of cumulative impacts related to handling of hazardous materials is generally site-specific. In addition, the cumulative development projects identified in Table 2 would be subject to the same fire safety, emergency response and hazardous materials regulations that are applicable to the proposed project. As such, the proposed project would not combine with reasonably foreseeable projects in the project vicinity to create a significant cumulative impact related to hazards and hazardous materials. No mitigation measures are required. This topic will not be discussed in the EIR.

This page left intentionally blank.

E.18 Mineral Resources

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
18. MINERAL RESOURCES. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact MI-1: The proposed project would have no impact on mineral resources. (No Impact)

All land in the city, including the project site, is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology under the Surface Mining and Reclamation Act of 1975.¹³⁹ This designation indicates that there is insufficient information available to assign the site to any other mineral resource zone and that the site contains no significant mineral deposits. Furthermore, according to the San Francisco General Plan, no significant mineral resources exist in all of San Francisco.¹⁴⁰ Therefore, the proposed project would not result in the loss of availability of a locally or regionally important mineral resource and would have no impact on mineral resources. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-MI-1: The proposed project, in combination with reasonably foreseeable projects, would not result in a significant cumulative impact related to mineral resources. (No Impact)

As described above, the entire City of San Francisco is designated MRZ- 4, which indicates that no known significant mineral resources exist at the project site or within the project vicinity. Because the project would result in no impact to mineral resources, the proposed project would not have the potential to contribute to cumulative impacts related to mineral resources. No mitigation measures are required. This topic will not be discussed in the EIR.

¹³⁹ California Division of Mines and Geology, Mineral Land Classification: Aggregate Materials in the San Francisco – Monterey Bay Area, 1987. Accessed February 4, 2019. ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_146-2/SR_146-2_Text.pdf.

¹⁴⁰ San Francisco Planning Department, San Francisco General Plan, Environmental Protection Element, December 2004, Accessed February 4, 2019. http://generalplan.sfplanning.org/I6_Environmental_Protection.htm.

This page left intentionally blank.

E.19 Energy Resources

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less-than- Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
19. ENERGY. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact EN-1: The proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation; or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (*Less than Significant*)

In California, energy consumption in buildings is regulated by Title 24 of the California Code of Regulations. Title 24 includes standards that regulate energy consumption for the heating, cooling, ventilation, and lighting of residential and non-residential buildings. In San Francisco, documentation demonstrating compliance with Title 24 standards is required to be submitted with a building permit application. Compliance with Title 24 standards is enforced by the building department. The proposed project, which would be located on an infill site, would include new construction and the adaptive reuse of two existing onsite buildings. The proposed project would be required to comply with the standards of Title 24 and the requirements of the San Francisco Green Building Code.

Non-renewable energy consumption would occur during the proposed project construction and operational phases. Construction energy consumption would be primarily in the form of indirect energy inherent in the production of materials used for construction (e.g., the energy necessary to manufacture a steel beam from raw materials) and the fuel used by construction equipment. Construction-related energy consumption is roughly proportional to the size of the new building proposed.

Operational-related energy consumption would include electricity and natural gas, as well as fuel used by residents and commercial employees as expressed through vehicle miles traveled. Electricity and natural gas would be used for building space heating and lighting, as well as for operation of equipment and machines.

Energy conservation design features to meet state and local goals for energy efficiency and renewable energy have been incorporated into the project design to reduce wasteful, inefficient, and unnecessary consumption of energy during project construction and operation. As stated above, the proposed project would be required to comply with the standards of Title 24 and the

requirements of the San Francisco Green Building Code, thus minimizing the amount of fuel, water, and energy used. The proposed project would also incorporate transportation demand management measures into its design, such as car-share parking and bicycle parking and a repair station and be in proximity to several public transportation options. These features would minimize the amount of transportation fuel consumed. As discussed in Section E.5, Transportation and Circulation, the project site is in an area with a comparably low level of VMT per capita, relative to the regional average, and new residents would most likely engage in vehicle use patterns similar to those of the existing population in the neighborhood and general vicinity. Given the project's features and location, it would not result in wasteful use of fuel from vehicle trips.

The following discussion provides a quantitative assessment of the proposed project's energy use, including energy use calculations and a discussion of energy conservation measures. Electrical energy demand is measured by power flow, expressed in kilowatt-hours (kWh) and natural gas is measured in cubic feet of gas or by its heat content in British thermal units (BTUs), or therms. Diesel and gasoline fuel use is measured in gallons. The energy consumption calculations are provided in Appendix C of this initial study.

CONSTRUCTION

Energy use associated with construction of the proposed project would include the use of electric equipment, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips. Construction of the proposed project would use approximately 179,419 gallons of diesel for off-road construction equipment. Approximately 62,131 gallons of diesel and 15,598 gallons of gasoline would be used for on-road trips during construction of the proposed project. Construction of the proposed project would occur over a three-year timeframe; thus, construction-related energy use would be temporary. Furthermore, as compared to other states and the country as whole, construction projects in California and in the San Francisco Bay Area use the most energy-efficient equipment available in order to meet state and local goals for criteria air pollutant and GHG emissions reductions. As a result, construction activities would not have a measurable effect on regional energy supplies or on peak energy demand resulting in a need for additional capacity. Therefore, as a temporary activity, construction of the proposed project would not result in inefficient or wasteful use of fuel or energy.

OPERATION

Energy use associated with operation of the proposed project would include onsite use associated with buildings and fuel from mobile sources. The total project energy use would be approximately 4,096,431 kBTU/year for natural gas and 2,068,157 KWhr/year for electrical use. With implementation of the energy conservation measures required to meet the city's Green Building Code, the proposed project would meet the Title 24 energy conservation standards.

During operation of the proposed project, mobile sources would use approximately 17,317 gallons of diesel and 22,920 gallons of gasoline per year, based on an annual VMT estimate of 783,869 passenger vehicle miles and 105,631 truck miles. As discussed in Section E.5, Transportation and Circulation, project VMT is expected to be at least 15 percent below the regional average. Furthermore, compliance with the city's Transportation Demand Management Programs,

Transportation Sustainability Fee, bicycle parking requirements, low emission car parking requirements, and car sharing requirements would reduce the proposed project's transportation-related emissions.

As such, compliance with the Title 24 energy conservation standards of the California Code of Regulations would ensure that operation of the proposed project would not have a measurable effect on regional energy supplies or on peak energy demand resulting in a need for additional capacity. Natural gas and electric service would be provided to meet the needs of the project, as required by the California Public Utilities Commission, which obligates PG&E and the SFPUC to provide service to its existing and potential customers. PG&E and the SFPUC update their service projections in order to meet regional energy demand. Energy conservation measures incorporated into the proposed project would decrease overall energy consumption, decrease reliance on non-renewable energy sources, and increase reliance on renewable energy sources at the project site. The proposed project would also be consistent with San Francisco's GHG reduction strategy (see Section E.8, Greenhouse Gas Emissions). Therefore, energy consumption associated with operation of the proposed project would not occur in an inefficient or wasteful manner.

In summary, construction and operation of the proposed project would not use energy resources in a wasteful, inefficient, or unnecessary manner, nor would the proposed project conflict with or obstruct implementation of a state or local plan for renewable energy or energy efficiency. Therefore, the proposed project would have a less-than-significant impact on energy resources and no mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-EN-1: The proposed project, in combination with reasonably foreseeable future projects, would not result in cumulative energy impacts. (*Less than Significant*)

The geographic context for the analysis of cumulative impacts associated with energy is the service territory of the energy utility that serves the project site, PG&E, while the geographic context for the analysis of cumulative impacts associated with fuel use is the city. The proposed project would involve construction of new residential and commercial retail uses, resulting in an increase of energy use at the site. Like the proposed project, all new development in the city would be required to comply with the standards of Title 24 and the San Francisco Green Building Code, thereby minimizing the amount of fuel, water, and energy used. Per capita VMT in the city is relatively low compared with the regional average; therefore, reasonably foreseeable development, including the project, would not result in wasteful use of fuel for transportation purposes. As such, the proposed project, in combination with reasonably foreseeable future projects, would have less-than-significant cumulative energy impacts and no mitigation measures are required. This topic will not be addressed in the EIR.

This page left intentionally blank.

E.20 Agriculture and Forestry Resources

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
20. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. —Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact AF-1: The proposed project would not convert farmland; conflict with existing zoning for agricultural uses, forest land, timberland, or Williamson Act contract; and would not result in the loss or conversion of forest land. (No Impact)

The project site is located within an urbanized area of San Francisco and developed as a surface parking lot. There are no lands in the City of San Francisco, including the project site, designated Prime Farmland, Unique Farmland, Farmland of State Importance, or Farmland of Local Importance.¹⁴¹ Additionally, there are no lands in San Francisco zoned agriculture, forest land, or

¹⁴¹ California Department of Conservation. 2016. California Important Farmland Finder. Accessed February 4, 2019. <https://maps.conservation.ca.gov/DLRP/CIFF/>.

timberland production.¹⁴² The City of San Francisco does not participate in the Williamson Act program and therefore the proposed project would not conflict with a Williamson Act contract.¹⁴³ As such, the proposed project would not conflict with zoning for forest land, cause a loss of forest land, or convert forest land to a different use. The proposed project would have no impact on agricultural and forest resources. No mitigation measures are required. This topic will not be discussed in the EIR.

Impact C-AF-1: The proposed project, in combination with other reasonably foreseeable projects, would not result in a significant cumulative impact related to agriculture and forestry resources. (No Impact)

As discussed above, the proposed project would result in no impact with respect to agriculture and forestry resources. Therefore, the proposed project would not have the potential to contribute to cumulative impacts related to agriculture and forestry resources. No mitigation measures are required. This topic will not be discussed in the EIR.

142 San Francisco Planning Department. 2018. San Francisco Zoning Map. Accessed February 4, 2019. <https://sf-planning.org/zoning-map>.

143 California Department of Conservation. 2019. Land Conservation (Williamson) Act. Accessed February 4, 2019. https://www.conservation.ca.gov/dlrp/wa/Pages/LCA_QandA.aspx.

E.21 Wildfire

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
21. WILDFIRE. 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 plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structure to significant risks including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones.¹⁴⁴ Therefore, this topic is not applicable to the project. No mitigation measures are required. This topic will not be discussed in the EIR.

¹⁴⁴ California Department of Forestry and Fire Protection. San Francisco County Draft Fire Hazard Severity Zones in Local Responsibility Areas Map, October 5, 2007. http://frap.fire.ca.gov/webdata/maps/san_francisco/fhszl06_1_map.38.pdf.

This page left intentionally blank.

E.22 Mandatory Findings of Significance

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
22. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:					
a) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As discussed in the biological resources section, the proposed project would not significantly affect any habitats, plant or animal communities, or threatened or endangered species. As discussed in Section E.3, Cultural Resources and Section E.4, Tribal Cultural Resources, the proposed project would not result in significant impacts to archeological resources, historic structures, or tribal cultural resources with implementation of mitigation measures. No further analysis will be required in the EIR. As discussed in Section E.6, Noise, the proposed project would not result in significant vibration impacts to adjacent historic and non-historic buildings, or construction noise with implementation of mitigation measures. The project, however, could result in potentially significant impacts to air quality, wind, and shadow. These impacts will be further discussed in the EIR.

The proposed project, in combination with reasonably foreseeable projects as described in Section E, would not result in cumulative impacts to land use, population and housing, transportation and circulation, GHG emissions, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy resources, agricultural and forest resources, or wildfires.

The proposed project in combination with foreseeable projects could result in cumulative impacts to cultural resources (historic architectural resources and archeological resources), tribal cultural resources, and construction noise. These impacts can be reduced to less than significant levels with implementation of mitigation measures. In addition, the proposed project in combination with

foreseeable projects could result in cumulative impacts to air quality, wind, and shadow which will be further analyzed in the EIR. These topics will be evaluated in the EIR.

F. MITIGATION MEASURES

The following mitigation measures have been agreed to by the project sponsor and are necessary to reduce the potentially significant environmental impacts of the proposed project to less-than-significant levels.

Mitigation Measure M-CR-3: Archeological Testing

Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources and on human remains and associated or unassociated funerary objects. The project sponsor shall retain the services of an archaeological consultant from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the planning department archaeologist. After the first project approval action or as directed by the Environmental Review Officer (ERO), the project sponsor shall contact the department archaeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the ERO. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section. 15064.5 (a) and (c).

Consultation with Descendant Communities: On discovery of an archeological site¹⁴⁵ with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an appropriate representative¹⁴⁶ of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the ERO regarding appropriate archeological treatment of the site, of

¹⁴⁵ The term "archeological site" is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.

¹⁴⁶ An "appropriate representative" of the descendant group is defined here to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archaeologist.

recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archaeological Resources Report shall be provided to the representative of the descendant group.

Archeological Testing Program. The archeological consultant shall prepare and submit to the ERO for review and approval an *archeological testing plan* (ATP). The *archeological testing program* shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the *archeological testing program* will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes a historical resource under CEQA.

At the completion of the *archeological testing program*, the archeological consultant shall submit a written report of the findings to the ERO. If based on the *archeological testing program* the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional *archeological testing*, *archeological monitoring*, and/or an *archeological data recovery program*. No archeological data recovery shall be undertaken without the prior approval of the ERO or the planning department archeologist. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

- C. The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or
- D. A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological monitoring program shall minimally include the following provisions:

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. The project shall not require pile driving. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, site remediation, etc., shall require *archeological monitoring* because of the risk these activities pose to potential archaeological resources and to their depositional context;
- The archeological consultant shall undertake a worker training program for soil-disturbing workers that will include an overview of expected resource(s), how to

identify the evidence of the expected resource(s), and the appropriate protocol in the event of apparent discovery of an archeological resource;

- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with the project archeological consultant, determined that project construction activities could have no effect on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The project shall not require pile driving. The archeological monitor shall be empowered to temporarily redirect demolition/excavation installation/construction activities and equipment until the deposit is evaluated. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The *archeological data recovery program* shall be conducted in accordance with an *archeological data recovery plan* (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed *data recovery program* will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what *data classes* the resource is expected to possess, and how the expected *data classes* would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- *Field Methods and Procedures.* Descriptions of proposed field strategies, procedures, and operations.
- *Cataloguing and Laboratory Analysis.* Description of selected cataloguing system and artifact analysis procedures.
- *Discard and Deaccession Policy.* Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program.* Consideration of an onsite/offsite public interpretive program during the course of the *archeological data recovery program*.
- *Security Measures.* Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.

- *Final Report.* Description of proposed report format and distribution of results.
- *Curation.* Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains, Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the ERO and the Medical Examiner of the City and County of San Francisco and, in the event of the Medical Examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission, who shall appoint a Most Likely Descendant (MLD) . The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98). The ERO also shall be notified immediately upon the discovery of human remains (Public Resources Code section 5097.98). The ERO also shall be notified immediately upon the discovery of human remains.

The project sponsor and ERO shall make all reasonable efforts to develop a Burial Agreement ("Agreement") with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and associated or unassociated funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). The Agreement shall take into consideration the appropriate excavation, removal, recordation, scientific analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD agrees to scientific analyses of the remains and/or associated or unassociated funerary objects, the archaeological consultant shall retain possession of the remains and associated or unassociated funerary objects until completion of any such analyses, after which the remains and associated or unassociated funerary objects shall be reinterred or curated as specified in the Agreement.

Nothing in existing State regulations or in this mitigation measure compels the project sponsor and the ERO to accept treatment recommendations of an MLD. However, if the ERO, project sponsor and MLD are unable to reach an Agreement on scientific treatment of the remains and associated or unassociated funerary objects, the ERO, with cooperation of the project sponsor, shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance.

Treatment of historic-period human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity, additionally, shall follow protocols laid out in the project's archaeological treatment documents, and in any related agreement established between the project sponsor, Medical Examiner and the ERO.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research

methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. The Draft FARR shall include a curation and deaccession plan for all recovered cultural materials. The Draft FARR shall also include an Interpretation Plan for public interpretation of all significant archeological features. Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, the consultant shall also prepare a public distribution version of the FARR. Copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The environmental planning division of the planning department shall receive one bound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of public interest in or the high interpretive value of the resource, the ERO may require a different or additional final report content, format, and distribution than that presented above.

Mitigation Measure M-TCR-1: Tribal Cultural Resources Interpretive Program

During ground-disturbing activities that encounter archeological resources, if the ERO determines that a significant archeological resource is present, and if in consultation with the affiliated Native American tribal representatives, the ERO determines that the resource constitutes a tribal cultural resource (TCR) and that the resource could be adversely affected by the proposed project, the proposed project shall be redesigned so as to avoid any adverse effect on the significant tribal cultural resource, if feasible.

If the ERO determines that preservation-in-place of the TCR is both feasible and effective, then the archeological consultant shall prepare an archeological resource preservation plan (ARPP). Implementation of the approved ARPP by the archeological consultant shall be required when feasible.

If the ERO, in consultation with the affiliated Native American tribal representatives and the project sponsor, determines that preservation-in-place of the tribal cultural resources is not a sufficient or feasible option, the project sponsor shall implement an interpretive program of the TCR in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO, would be required to guide the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.

Mitigation Measure M-NO-1: Construction Noise

The project sponsor shall develop site-specific noise attenuation measures under the supervision of a qualified acoustical consultant. At the end of the design phase of this project

and prior to commencing construction, the project sponsor shall submit a noise attenuation plan to the San Francisco Planning Department and Department of Building Inspection to ensure maximum feasible noise attenuation will be achieved. The noise attenuation plan shall reduce construction noise to the degree feasible with a goal of reducing construction noise levels at adjacent noise sensitive receptors (residential, hotel, hospital, convalescent home, school, and church uses) so that noise levels do not exceed 90 dBA and 10 dBA above ambient daytime noise levels. The project sponsor shall include noise attenuation measures in specifications provided to the general contractor and any sub-contractors. Noise attenuation measures shall, at minimum, include the following:

- Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds), wherever feasible.
- Require the general contractor to perform all work in a manner that minimizes noise to the extent feasible; use equipment with effective mufflers; undertake the noisiest activities during times of least disturbance to surrounding residents and occupants.
- Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.
- Require the general contractor to erect temporary plywood noise barriers (at least 0.5-inch-thick) around stationary noise sources and/or the construction site, particularly where a noise source or the site adjoins noise-sensitive uses. The barriers shall be high enough to block the line of sight from the dominant construction noise source to the closest noise-sensitive receptors. Depending on factors such as barrier height, barrier extent, and distance between the barrier and the noise-producing equipment or activity, such barriers may reduce construction noise by 3–15 dBA at the locations of nearby noise-sensitive receptors.
- Require the general contractor to use noise control blankets on a building structure as the building is erected to reduce noise emission from the site.
- Require the general contractor to line or cover hoppers, storage bins, and chutes with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Unless safety provisions require otherwise, require the general contractor to adjust audible backup alarms downward in sound level while still maintaining an adequate signal-to-noise ratio for alarm effectiveness. Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed to reduce reliance on high-amplitude sonic alarms/beeps.

- Require the general contractor to place stationary noise sources, such as generators and air compressors, on the power station side of the project site, as far away from nearby noise-sensitive receptors as possible. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.
- Require the general contractor to place non-noise-producing mobile equipment, such as trailers, in the direct sound pathways between suspected major noise-producing sources and noise-sensitive receptors.
- Under the supervision of a qualified acoustical consultant, the project sponsor shall monitor the effectiveness of noise attenuation measures by taking noise measurements as needed.
- Prior to the issuance of a building permit, along with the submission of construction documents, the project sponsor shall submit to the planning department and building department a list of measures that shall be implemented and that shall respond to and track complaints pertaining to construction noise. These measures shall include:
 1. post signs onsite pertaining to permitted construction days and hours;
 2. a procedure and phone numbers for notifying the building department and the San Francisco Police Department (during regular construction hours and off-hours). This telephone number shall be maintained until the proposed project is ready for occupancy;
 3. a sign posted onsite describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction;
 4. designation of an onsite construction complaint and enforcement manager for the project who shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints.
 5. notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating anticipated noise levels of 90 dBA or greater) about the estimated duration of the activity.

Mitigation Measure M-NO-2: HVAC and Mechanical Equipment Exterior Noise

A minimum of 20.5 dB(A) noise reduction is required from the rooftop equipment to achieve the requirements of the San Francisco Police Code. The project sponsor shall implement the following mitigation measure to reduce noise levels from the source equipment and achieve compliance with the police code:

- Enclose as much of the proposed project's rooftop equipment as possible within a mechanical room with small louvered openings to the exterior. The mechanical room

and louvered openings can be treated with acoustic absorption and sound attenuators to reduce noise at the property planes.

- If the equipment remains open to the roof, select rooftop equipment with a maximum sound pressure level of 54.4 dB(A) at 50 feet from the equipment.
- Attach sound attenuators to the outside air and exhaust air openings/fans of the rooftop equipment to minimize environmental noise.

During the design phase, once the project sponsor has selected the specific HVAC and mechanical equipment for the proposed project, a qualified acoustical consultant shall conduct a property plane noise analysis. The property plane analysis report shall evaluate whether the proposed HVAC and mechanical equipment complies with the noise limits in the San Francisco Police Code. The report shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a building permit or building permit addendum that would permit the HVAC and mechanical equipment.

G. DETERMINATION

On the basis of this Initial Study:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

DATE _____

Lisa Gibson
Environmental Review Officer

This page left intentionally blank.

H. INITIAL STUDY PREPARERS

PLANNING DEPARTMENT, CITY AND COUNTY OF SAN FRANCISCO (LEAD AGENCY)

Environmental Planning Division
1650 Mission Street, Suite 400
San Francisco, CA 94103

Environmental Review Officer:	Lisa Gibson
Principal Environmental Planner:	Jessica Range
Senior Environmental Planner:	Jenny Delumo
Transportation Planner:	Elizabeth White
Archeologist:	Sally Morgan
Historic Preservation Planner:	Justin Greving
Current Planner:	Nicholas Foster

STANTEC CONSULTING SERVICES INC. (ENVIRONMENTAL PLANNING CONSULTANT)

1340 Treat Boulevard, Suite 300
Walnut Creek, CA 94597

Principal in Charge:	Trevor Macenski
Project Manager:	Anna Radonich
Quality Assurance/Quality Control	Christine Abraham
Senior Air Quality Analyst:	Elena Nuño
HRA Specialist:	Leland Villalvazo
Senior Noise Analyst:	Tracie Ferguson
Senior Environmental Planner:	Tina Garg
Environmental Planner/ GIS Analyst:	Kaela Johnson

FEHR AND PEERS TRANSPORTATION CONSULTANTS (TRANSPORTATION CONSULTANT)

332 Pine Street, 4th Floor
San Francisco, CA 94104

Transportation Engineer:	Mike Hawkins
--------------------------	--------------

ALLWEST ENVIRONMENTAL (ENVIRONMENTAL SITE ASSESSMENT CONSULTANT)

2141 Mission Street, Suite 100
San Francisco, CA 94110

President: Marc Cunningham

Project Manager: Glenn Aro

LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC (GEOTECHNICAL CONSULTANT)

555 Montgomery Street, Suite 1300
San Francisco, CA 94111

Principal: Maria Flessas

Project Engineer: Peter Brady

ARUP (WIND CONSULTANT)

77 Water Street
New York, NY 10005

Associate Principal Melissa Burton

BUILD (PROJECT SPONSOR)

315 Linden Street
San Francisco, CA 94102

Project Manager: Victoria Lehman

APPENDIX A: NOISE TECHNICAL MEMORANDUM FOR 469 STEVENSON STREET

To:	Jenny Delumo	From:	Stantec Consulting Services Inc.
	Planning Department, City and County of San Francisco		1340 Treat Boulevard, Suite 300 Walnut Creek, CA
File:	469 Stevenson Street Project	Date:	September 27, 2019

Reference: Noise Technical Memorandum for 469 Stevenson Street Project

INTRODUCTION

Noise Technical Memo Purpose

The purpose of this Noise Technical Memorandum (Memo) is to support the 469 Stevenson Street Project (proposed project) Initial Study. This Memo provides analyses of potential project-related noise exposure and generation during construction and operations. This Memo has been prepared to analyze the potential construction-related noise and vibration generated from the proposed project and estimate the potential operational noise conditions located at the project site. This Memo will be used as a supplementary analysis to the initial study.

Specifically, the purpose of this Memo is to assess the existing ambient noise conditions at the nearest sensitive receptors and within the proposed project area. This Memo includes an evaluation of the proposed noise-generating uses that could affect noise-sensitive receptors.

Project Description and Location

The project site is a through lot located at 469 Stevenson Street in the South of Market (SoMa) neighborhood of San Francisco (Assessor's Block 3704, Lot 45). The project site is located mid-block between Stevenson Street, Sixth Street, Jessie Street, and Fifth Street. The project site is approximately 28,790 square feet (0.66-acre) and currently developed as a surface parking lot with 176 parking spaces. The proposed project would demolish the existing surface parking lot and construct a new 27-story mixed-use building approximately 274 feet tall (with 10 additional feet for rooftop mechanical equipment) with three below grade parking levels. The proposed project would total approximately 543,000 gross square feet (gsf) consisting of 462 residential units, approximately 3,900 square feet of commercial retail use on the ground floor, and approximately 25,059 square feet of private and common open space. The 462 residential units would be available for rent and include a mix of 358 one-bedroom, 54 two-bedroom, 42 three-bedroom, and 8 five-bedroom units. The proposed project would use the State Density Bonus program and provide affordable housing units onsite. The below grade parking would provide 171 parking spaces and 191 *Class 1* bicycle spaces. In addition, 23 *Class 2* bicycle spaces are proposed along the frontages of Stevenson and Jessie Streets.

The mechanical equipment for the project is anticipated to be located throughout the building, including several pieces of equipment on the roof. The actual mechanical equipment planned for the building is not yet known, however, typical residential and commercial building construction would commonly involve air handling units or make up air units, condensing units, and exhaust fans.

One (1) emergency generator is planned for the proposed project to provide backup energy for the building's mechanical equipment. The generator is planned to be located within a room on the ground floor in the southwest portion of the property. The exact discharge, intake, and exhaust pipe path for the generator are

not yet known, but for the purpose of this analysis, they are assumed to be directly on the Sixth Street property plane to simulate a worst-case condition. The generator was assumed to be tested during weekday, daytime hours.

The proposed project is anticipated to be constructed on a mat foundation and no pile driving or piers are proposed or required. Construction of the proposed project is anticipated to begin in 2020 and be completed by 2023, requiring approximately 36 months of construction. Construction activities would include site preparation / demolition, excavation and shoring, foundation and below grade construction, building construction, exterior finishing, and sitework / paving work. Construction would generally occur between the hours of 7:00 a.m. and 8:00 p.m. up to seven days a week. Nighttime construction activities would take place for a maximum of five (5) nights total and would include the following activities

1. Erection and dismantling of the tower crane;
2. Miscellaneous utility work
3. Fire alarm testing; and
4. Concrete pour for the mat slab foundation

Noise Fundamentals and Terminology

Noise is generally defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, hotels, and residences are considered noise sensitive receptors because they are more sensitive to noise intrusion than are commercial or industrial activities. Ambient noise levels can also affect the perceived desirability or livability of a development. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called A-weighting, written as dB(A) and referred to as A-weighted decibels. There is a strong correlation between A-weighted sound levels and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. Table 1 defines sound measurements and other terminology used in this Memo, and Table 2 summarizes typical A-weighted sound levels for different noise sources.

With respect to how humans perceive and react to changes in noise levels, a 1dB(A) increase is imperceptible, a 3 dB(A) increase is barely perceptible, a 6 dB(A) increase is clearly noticeable, and a 10 dB(A) increase is subjectively perceived as approximately twice as loud (Egan 2007). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. These statistical indicators are thought to be most applicable to noise levels in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (Leq), the minimum and maximum sound levels (Lmin and Lmax), percentile-exceeded sound levels (such as L10, L20), the day-night sound level (Ldn), and the community noise equivalent level (CNEL). Ldn and CNEL values typically differ by less than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source such as a stationary compressor or construction equipment, sound attenuates based on geometry at rate of 6 dB per doubling of distance. For a line source such as free flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (Federal Highway Administration 2011). Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1–2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receptor also increase the attenuation of sound over distance.

Table 1: Definition of Sound Measurement

Sound Measurements	Definition
Decibel (dB)	A measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dB(A))	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
C-Weighted Decibel (dB(C))	The sound pressure level in decibels as measured using the C- weighting filter network. The C-weighting is very close to an unweighted or flat response. C-weighting is only used in special cases when low-frequency noise is of particular importance. A comparison of measured A- and C-weighted level gives an indication of low frequency content.
Maximum Sound Level (Lmax)	The maximum sound level measured during the measurement period.
Minimum Sound Level (Lmin)	The minimum sound level measured during the measurement period.
Equivalent Sound Level (Leq)	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
Percentile-Exceeded Sound Level (Lxx)	The sound level exceeded xx % of a specific time period. L10 is the sound level exceeded 10% of the time. L90 is the sound level exceeded 90% of the time. L90 is often considered to be representative of the background noise level in a given area.
Day-Night Level (Ldn)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

Sound Measurements	Definition
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches/second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Source: Federal Highway Administration 2006a

Table 2: Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet flyover at 1,000 Feet	-110	Rock band
Gas lawnmower at 3 Feet	-100-	
Diesel truck at 50 Feet at 50 MPH	-90-	Food blender at 3 Feet
Noisy urban area, daytime	-80-	Garbage Disposal at 3 Feet
Gas lawnmower, 100 Feet	-70-	Vacuum Cleaner at 10 Feet
Commercial area	-60-	Normal Speech at 3 Feet
Heavy traffic at 300 Feet	-50-	
Quiet urban daytime	-40-	Large business office
Quiet urban nighttime	-30-	Dishwasher in next room
Quiet suburban nighttime	-20-	Theater, large conference room (Background)
Quiet rural nighttime	-10-	Library
	-0-	Bedroom at night, concert hall (Background)
		Broadcast/recording studio

Decibel Addition

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one source produces a sound pressure level of 70 dB(A), two identical sources would not produce 140 dB(A)—rather, they would combine to produce 73 dB(A). The cumulative sound level of any number of sources can be determined using decibel addition.

Vibration

Operation of heavy construction equipment, particularly pile driving and other impact devices such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV). Table 3 summarizes typical vibration levels generated by construction equipment (Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual, September 2018).

Table 3: Vibration Source Levels for Construction Equipment

Equipment	Reference PPV at 25 Feet	Estimated PPV at 50 Feet
Large bulldozer	0.089	0.031
Caisson drilling	0.089	0.031
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001

Source: Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual, September 2018

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual, September 2018). PPVref is the reference PPV from Table 3.

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

Table 4 summarizes the guidelines for vibration annoyance potential criteria suggested by Caltrans (California Department of Transportation 2004). Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous and frequent intermittent sources are sources that continue for an extended period of time and include activities such as impact pile drivers, pogo-stick compactors, crack-and-seal equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 4: Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous and Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous and Frequent Intermittent Sources
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation 2004.

Table 5 summarizes the guidelines for building damage potential from vibration suggested by Caltrans (California Department of Transportation 2004).

Table 5: Guideline Vibration Damage Potential Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structure	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation 2004.

REGULATORY SETTING

California Building Code

Part 2, Title 24 of the California Code of Regulations California Noise Insulation Standards establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under Section 1207.11 "Exterior Sound Transmission Control", interior noise levels attributable to exterior noise sources cannot exceed 45 Ldn in any habitable room. Where such residences are located in an environment where exterior noise is 60 Ldn or greater, an acoustical analysis is required to ensure interior levels do not exceed the 45 Ldn interior standard. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the building must also specify a ventilation or air conditioning system to provide a habitable interior environment.

Paragraph 1207.4 "Allowable Interior Noise Levels" states "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element on the local general plan."

California Green Building Standards (CALGREEN)

The 2016 California Green Building Standards Code (CalGreen), Section 5.507 “Environmental Comfort”, states the following:

5.507.4.1 Exterior noise transmission. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC¹ rating of at least 50 or a composite OITC² rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport

Exceptions:

1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
2. Ldn or CNEL for other airports and heliports for which a land use plan that has not been developed shall be determined by the local general plan noise element.
3. Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway noise source as determined by the Noise Element of the General Plan.

5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB Leq-1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq -1Hr) of 50 dBA in occupied areas during any hours of operations

5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

¹ STC or Sound Transmission Class Rating is a one-number rating that describes how well a building partition or element attenuates airborne sound. STC ratings focus mainly on the mid-to-high frequency range associated with speech.

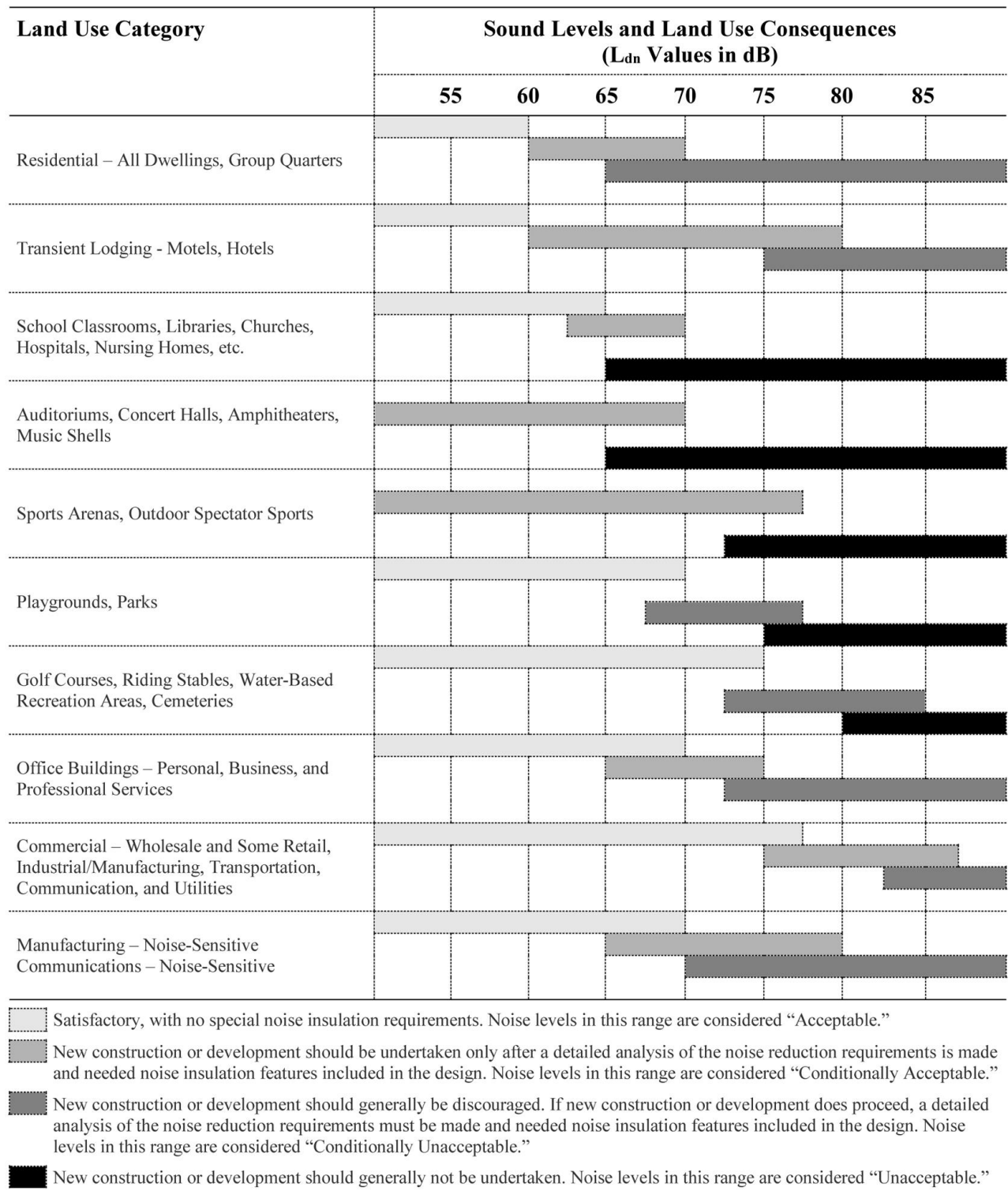
² OITC or Outside-Inside Transmission Class Ratings are also a one-number rating that described how well an exterior façade element, such as walls and windows, attenuate airborne noise. OITC ratings place more focus on the lower frequency ranges most associated with transportation noise sources.

The proposed project's interiors will be required to comply with the California Building Code and California Green Building Standards. The San Francisco Building Department would review the building plans for the proposed project to determine compliance with these standards.

San Francisco General Plan

The Environmental Protection Element within the San Francisco General Plan addresses those environmental issues that affect the residents of San Francisco, including noise concerns. Objective 11 of the Environmental Protection Element is directed toward achieving an environment in which noise levels will not interfere with the health and welfare of people in their everyday activities. Policy 11.1 identifies land use compatibility noise standards for noise-sensitive land uses affected by transportation and non-transportation noise sources. As shown in Figure 1, for residential buildings that are affected by transportation noise sources, the "normally acceptable" exterior noise level is 50-60 dB(A) Ldn. Exterior noise levels up to 70 dB(A) Ldn are considered "conditionally acceptable" and should be undertaken only after a detailed analysis of the noise reduction requirements are made. Exterior noise levels between 65 dB(A) and 90 dB(A) Ldn are considered "normally unacceptable." New construction with exterior noise levels in this range would require a detailed analysis of the noise reduction requirements and noise insulation features to be incorporated in the project to maintain "normally acceptable" interior noise levels. These policies and objectives of the general plan are implemented by individual projects through required building code requirements (see above discussion).

Figure 1: San Francisco Land Use Compatibility Chart for Community Noise



San Francisco Police Code

Article 29 "Regulation of Noise" of the San Francisco Police Code states the following:

Section 2909 "Noise Limits"

"(a) Residential Property Noise Limits.

- (1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.
 - (2) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on multi-unit residential property over which the person has ownership or control, a noise level more than five dBA above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.
- (b) Commercial and Industrial Property Noise Limits. No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on commercial or industrial property over which the person has ownership or control, a noise level more than eight dBA above the local ambient at any point outside of the property plane. With respect to noise generated from a licensed Place of Entertainment, licensed Limited Live Performance Locale, or other location subject to regulation by the Entertainment Commission or its Director, in addition to the above dBA criteria a secondary low frequency dBC criteria shall apply to the definition above. No noise or music associated with a licensed Place of Entertainment, licensed Limited Live Performance Locale, or other location subject to regulation by the Entertainment Commission or its Director, shall exceed the low frequency ambient noise level defined in Section 2901(f) by more than 8 dBC.
- (d) Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed."

Section 2901 "Definitions"

"(d) "Emergency Work" means work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger or work by private or public utilities when restoring utility service. This term shall not include testing of emergency equipment."

Section 2907 "Construction Equipment"

- "(a) Except as provided for in Subsections (b), (c), and (d) hereof, it shall be unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance.

- (b) The provisions of Subsections (a) of this Section shall not be applicable to impact tools and equipment, provided that such impact tools and equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation.
- (c) The provisions of Subsection (a) of this Section shall not be applicable to construction equipment used in connection with emergency work.”

Section 2908 “Construction Work at Night”

“It shall be unlawful for any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day to erect, construct, demolish, excavate for, alter or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest property plane, unless a special permit therefor has been applied for and granted by the Director of Public Works or the Director of Building Inspection. In granting such special permit the Director of Public Works or the Director of Building Inspection shall consider: if construction noise in the vicinity of the proposed work site would be less objectionable at night than during daytime because of different population levels or different neighboring activities if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site, if the neighborhood of the proposed work site is primarily residential in character wherein sleep could be disturbed: if great economic hardship would occur if the work were spread over a longer times if the work will abate or prevent hazard to life or property; and if the proposed night work is in the general public interest. The Director of Public Works or the Director of Building Inspection shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest.

The provisions of this Section shall not be applicable to emergency work.”

Places of Entertainment

Noise Regulations relating to Residential Uses Near Places of Entertainment (Ordinance 70-15, effective June 19, 2015) states residential structures to be located where the day-night average sound level (Ldn) or community noise equivalent level (CNEL) exceeds 60 decibels shall require an acoustical analysis with the application of a building permit showing that the proposed design would limit exterior noise to 45 decibels in any habitable room. Furthermore, the regulations require the San Francisco Planning Department and planning commission to consider the compatibility of uses when approving residential uses adjacent to or near existing permitted places of entertainment and take all reasonably available means through the city's design review and approval processes to ensure that the design of new residential development projects take into account the needs and interests of both the places of entertainment and the future residents of the new development.

The proposed project would be located within 300 feet of two (2) places of entertainment, OMG Bar and Nightclub (directly adjacent to the project site to the southwest) and Mezzanine (215 feet northeast of the project site). In addition, The Warfield is 334 feet northwest of the project site and the SHN Golden Gate Theater is 454 feet northwest of the project site.

The ambient noise level measured at the Jessie Street edge of the site during the early morning hours is an average of 71.4 dB(C). According to Section 2090 “Noise Limits”, Paragraph (b) “Commercial and Industrial Property Noise Limits” in the San Francisco Police Code, the loudest noise level the establishments would be

able to generate at the project site is 79.4 dB(C). The project exterior façade would be designed taking into account the noise levels generated by the neighboring places of entertainment as verified by the Project Sponsor via e-mail on July 26, 2019.

EXISTING NOISE ENVIRONMENT

Existing Ambient Noise Levels

The existing noise environment in a project area is characterized by the area's general level of development due to the high correlation between the level of development and ambient noise levels. Areas which are not urbanized are relatively quiet, while areas which are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities.

The City of San Francisco is exposed to several sources of noise, including traffic on the local roadways, such as Market Street, Sixth Street, and Fifth Street. Traffic noise depends primarily on traffic speed (tire noise increases with speed), proportion of medium and large truck traffic (trucks generate engine, exhaust, and wind noise, in addition to tire noise), and number of speed control devices, such as traffic lights (accelerating and decelerating vehicles and trucks can generate more noise).

Changes in traffic volumes can also have an impact on overall traffic noise levels. For example, it takes 25 percent more traffic volume to produce an increase of only 1 dB(A) in the ambient noise level. For roads already heavy with traffic volume, an increase in traffic numbers could even reduce noise because the heavier volumes could slow down the average speed of the vehicles. A doubling of traffic volume generally results in a 3 dB(A) increase in noise levels.

The main source of noise at the 469 Stevenson Street site is the steam generation plant on the adjacent Clearway Energy property. The noise from the steam generation plant is a constant, tonal noise produced from the mechanical equipment outside the building and the operation of the facility. Other sources of noise at the site include traffic on Sixth Street, very sparse traffic on Stevenson and Jessie streets, sidewalk activity, parking lot activity, aircraft fly overs, activity from businesses (back-up beepers, etc.), and noise from distant construction sites. The traffic in the area is comprised of vehicles, medium and large trucks, motorcycles, MUNI buses and streetcars, construction vehicles, and emergency vehicles. The project site is well-shielded from traffic noise along Market and Fifth Streets.

A noise survey was conducted between Thursday, March 14, 2019 and Sunday, March 17, 2019 to establish the existing baseline condition for the project. The survey involved securing a calibrated Larson Davis LxT sound level meter to the roof of the adjacent building at 989 Market Street, about 95 feet above the ground. The microphone was extended approximately two feet out from the building and directly faced Stevenson Street (within the red circle in Photo 1). The unattended meter collected data continuously between Tuesday and Sunday for a minimum of 24-hours.

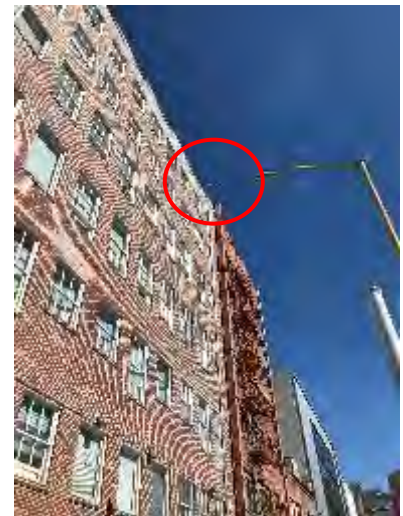


Photo 1: Microphone on Roof of 989 Market Building

One (1) additional spot measurement was taken during the same time period to extrapolate the 24-hour noise level to a different elevation to gain an understanding of sound across the full project site. The spot measurement was taken at the edge of the existing parking lot facing Jessie Street using a fully calibrated Larson Davis 831 sound level meter. The microphone was about 5 feet 6 inches above the sidewalk for the measurement. The results of the ambient noise measurements are shown in Table

7 below. Average 15-minute sound pressure levels measured at the 24-hour measurement location are shown in Appendix 1 attached to this Memo.

Table 7: Ambient Noise Level Measurement Results

Location	Ldn, dB(A) ³	Maximum One-Hour Leq, dB(A) ⁴	Maximum 15-Min Daytime Leq, dB(A)	Minimum 15-Min Daytime Leq, dB(A)	Minimum 15-Min Nighttime Leq, dB(A) ⁵
Stevenson Street – Rooftop	67.0 – 70.5 dB(A)	68.8 dB(A)	68.4 dB(A)	59.1 dB(A)	57.5 dB(A)
Jessie Street – Ground Level	64.5 – 68.0 dB(A)	66.3 dB(A)	65.9 dB(A)	56.6 dB(A)	55.0 dB(A)

The dates of the noise survey included the Hello Dolly show at the SHN Golden Gate Theater (March 16 and March 17, 2019), The Nils Frahm concert (March 15, 2019) and the Graveyard and Uncle Acid & The Deadbeats concert (March 16, 2019) at the Warfield, The Dirtybird Quarterly event at Mezzanine (March 15, 2019), and typical weekend activity at OMG Bar & Nightclub. Ambient noise levels measured during the early morning hours, or during the anticipated operational hours of the noise-generating entertainment uses, ranged between 70.2-73.4 dB(C). Ambient noise levels exceed the “satisfactory” category on the Land Use Compatibility Chart for Community noise.

Noise-Sensitive Receptors

Noise-sensitive receptors around the project site include The Wilson apartments at 973 Market Street, the Hampton Inn San Francisco Downtown at the corner of Mint Street and Mission Street, and various hotels and residential buildings near the corner of Sixth Street and Stevenson Street, including the Desmond Hotel at 42 Sixth Street, the Seneca Hotel at 34 Sixth Street, the Haveli Hotel at 37 Sixth Street, the Whitaker Hotel at 45 Sixth Street, the Hillsdale at 51 Sixth Street, the Oak Tree Hotel at 45 Sixth Street, the Winsor Hotel at 20 Sixth Street, and various residential spaces above 87-99 Sixth Street. The noise-sensitive receptors within 300 feet of the 469 Stevenson project site are shown in Appendix 2 attached to this memo.

Vibration-Sensitive Receptors

Historic buildings are more susceptible to vibration as compared with buildings with modern construction. Historic buildings adjacent to the project site include The Haveli Hotel at 35-37 Sixth Street (Date of Construction – 1908), The Whitaker Hotel at 39-41 Sixth Street (Date of Construction – 1906), The Oak Tree Hotel at 43-45 Sixth Street (Date of Construction – 1907), and The Hillsdale Hotel at 47-51 Sixth Street (Date of Construction – 1912). These structures are adjacent to the project site’s western property line. 65-83 Sixth Street (Date of Construction – 1913), 986 Mission Street/481 Jessie Street (Date of Construction – 1922), 980-984 Mission Street/479 Jessie Street (Date of Construction – 1924), 972-976 Mission Street (Date of Construction – 1925), 968 Mission Street (Date of Construction – 1930), 471 Jessie Street (Date of Construction – 1912), and 956-960 Mission Street (Date of Construction – 1910) are also historic buildings, and are located across the street from the project’s Jessie Street frontage. 995 Market Street/1 Sixth Street (Date of Original Construction – 1908), 979-989 Market Street (Date of Construction – 1907), 973 Market Street (Date of Construction – 1904) are historic buildings and are located across the street from the project’s Stevenson Street frontage. Additionally, the three-story building and two smokestacks located at 460 Jessie Street are located at the adjacent Clearway Energy thermal power station to the east of the project site and

³ The day-night noise level, Ldn, is relevant for noise interior to the residential units.

⁴ The maximum one-hour equivalent noise level, Leq, is referenced for CalGreen.

⁵ The minimum 15-minute nighttime equivalent noise level is used for the fixed-source mechanical noise property plane noise analysis.

are historical resources as contributors to the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. All vibration-sensitive buildings within 300 feet of the project site are also shown in Appendix 2 attached to this Memo and distinguished from noise-sensitive receptors as shown in the legend.

Existing Noise-Generating Uses

This neighborhood of the City contains several entertainment facilities which are in operation for weekly scheduled events or for special events. Noise generated by the operation of the facilities will be part of the ambient noise environment experienced by the subject project. Noise-generating uses around the project include places used for scheduled events, such as The Warfield (982 Market Street), Piano Fight (144 Taylor Street), Pandora Karaoke & Bar (50 Mason Street), OMG Bar and Nightclub (43 Sixth Street), Mezzanine (444 Jessie Street), Exit Stage Left (156 Eddy Street), and the SHN Golden Gate Theater (1 Taylor Street), and spaces used for special events, such as Club Six (60 Sixth Street), and the SF Mint (88 Fifth Street).

METHODOLOGY

In accordance with the requirements of the California Environmental Quality Act (CEQA), the noise analysis evaluates the project's noise sources to determine the impact of the proposed project on the existing ambient noise environment. This analysis does not analyze the impact of the existing ambient noise environment on the proposed project's residents. However, as discussed in the regulatory setting above, existing regulations are in place to ensure adequate interior noise levels are achieved for a proposed project.

Results from the long-term site measurements were used to provide baseline noise conditions at nearby sensitive receptors and within the project site vicinity. For the purpose of this analysis, potential sensitive receptors were determined by reviewing current aerial photography and by walking the project site.

Operational Noise

Project-generated traffic should not increase existing noise levels by 5 dBA Ldn if existing or existing plus project-generated noise levels are within the City's "Satisfactory" category per the general plan's land use compatibility chart for community noise (Figure 1 above). If existing or resulting with project noise levels are above the "Satisfactory" category, project-generated traffic noise should not result in an increase of 3 dBA Ldn. Anticipated noise increases from future project-related traffic were estimated using predicted vehicle traffic generated from the 469 Stevenson project as detailed in the traffic analysis prepared by Fehr & Peers.

In addition, the proposed project would require one diesel emergency backup generator and a generator to operate a fire pump, required by the building code to ensure life safety requirements are met. Given their limited operation, noise from these generators are analyzed qualitatively for their potential to increase ambient noise levels.

Noise from the proposed project's mechanical and HVAC systems would operate regularly and are therefore analyzed for compliance with article 2909(a) and (d) of the noise ordinance (refer to regulatory discussion above).

The proposed project would not include sources of vibration during operations. Therefore, no operational vibration assessment is required.

Construction Noise

The San Francisco Police Code does not specify quantitative noise limits for impact equipment or combined noise impacts from the simultaneous operation of multiple pieces of construction equipment. Therefore, the

quantitative evaluation of daytime construction noise effects is based on criteria in the Federal Transit Administration (FTA) guidelines for residential land uses which is 90 dBA Leq.⁶

The planning department also evaluates whether construction noise would result in an increase of 10 dBA over existing noise levels ("Ambient + 10 dBA") at sensitive receptors, which generally represents a perceived doubling of loudness. The quantitative analysis typically evaluates the noise levels from the simultaneous operation of multiple pieces of construction equipment to provide a worst-case assessment of potential noise during construction. Although a more refined analysis evaluating the noise levels from all equipment associated with a construction phase is also acceptable. The quantitative criteria above are only part of the evaluation of construction noise. The evaluation also considers the duration and intensity of any quantitative noise exceedance. In addition, nighttime construction noise is assessed to determine whether sleep disturbance would occur (if construction noise would exceed 45 dBA at residential interiors for prolonged periods of time). The nighttime construction noise analysis also considers the frequency and duration of nighttime construction activities.

The Federal Highway Administration Roadway Construction Noise Model (RCNM) was used to determine noise generated from construction activities. The RCNM is used as the Federal Highway Administration's national standard for predicting noise generated from construction activities. The RCNM analysis includes the calculation of noise levels (Lmax and Leq) at incremental distances for a variety of construction equipment. The spreadsheet inputs include acoustical use factors, Lmax values, and Leq values at various distances depending on the ambient noise measurement location. Construction noise levels were calculated for each phase of construction based on the equipment list provided by the project sponsor. Given the limited extent and duration of nighttime construction activities, the potential for nighttime construction noise to result in sleep disturbance is analyzed qualitatively.

Construction Vibration

Vibration from construction equipment is analyzed at the surrounding buildings and compared to the applicable Caltrans building damage criteria to determine whether construction activities would generate vibration at levels that could result in building damage. Given the limited extent and duration of nighttime construction activities, the potential for vibration effects to result in sleep disturbance are analyzed qualitatively.

ENVIRONMENTAL ANALYSIS

Traffic Noise Levels

To describe future noise levels due to traffic added from the proposed project, peak hour traffic counts (with and without the project) listed in the traffic study by Fehr & Peers were used to determine the percent increase of traffic on the roads adjacent to the project site and near adjacent sensitive receptors.

Table 8 shows the existing peak hour traffic count and the estimated traffic levels under existing plus project conditions on nearby roadways. The last columns in the table show the overall percentage change and the estimated difference in peak hour noise level. Calculations to support the table are contained in Appendix 3 attached to this memo.

⁶ Federal Transit Administration (FTA), 2018, Transit Noise and Vibration Impact Assessment, DTA-VA- 90-1003-06, Chapter 12, September 2018, U.S. Department of Transportation. http://www.fta.dot.gov/12347_2233.html.

Table 8: Traffic Peak Hour Counts and Estimated Noise Increase

Roadway	Existing Peak Hour Traffic Counts	Estimated Peak Hour Traffic with Project	Percentage Change	Estimated dB(A) Change
Market Street	580	580	0%	0 dB(A)
Sixth Street	1,844	1,859	1%	0.04 dB(A)
Stevenson Street	108	152	41%	1.6 dB(A)
Fifth Street	1,402	1,423	2%	0.08 dB(A)

The proposed project is expected to minimally increase traffic volumes along Market Street, Sixth Street, and Fifth Street. There would essentially be no perceptible change in traffic noise expected along these streets. Peak traffic volumes are expected to increase approximately 41 percent along Stevenson Street between Fifth and Sixth Streets with implementation of the proposed project. Traffic increases of 41 percent only raise noise levels approximately 1.6 dB(A), which is imperceptible.

Project Fixed-Source Noise

HVAC and Mechanical Systems Exterior Noise

Per San Francisco Police Code section 2909(a) residential properties may not produce a noise level more than 5 dB(A) above the ambient noise level at any point outside of the property plane. Typical residential and commercial building construction would involve new rooftop mechanical equipment, such as air handling units, condensing units, make-up air units, and exhaust fans. This equipment would generate noise that would radiate to neighboring properties.

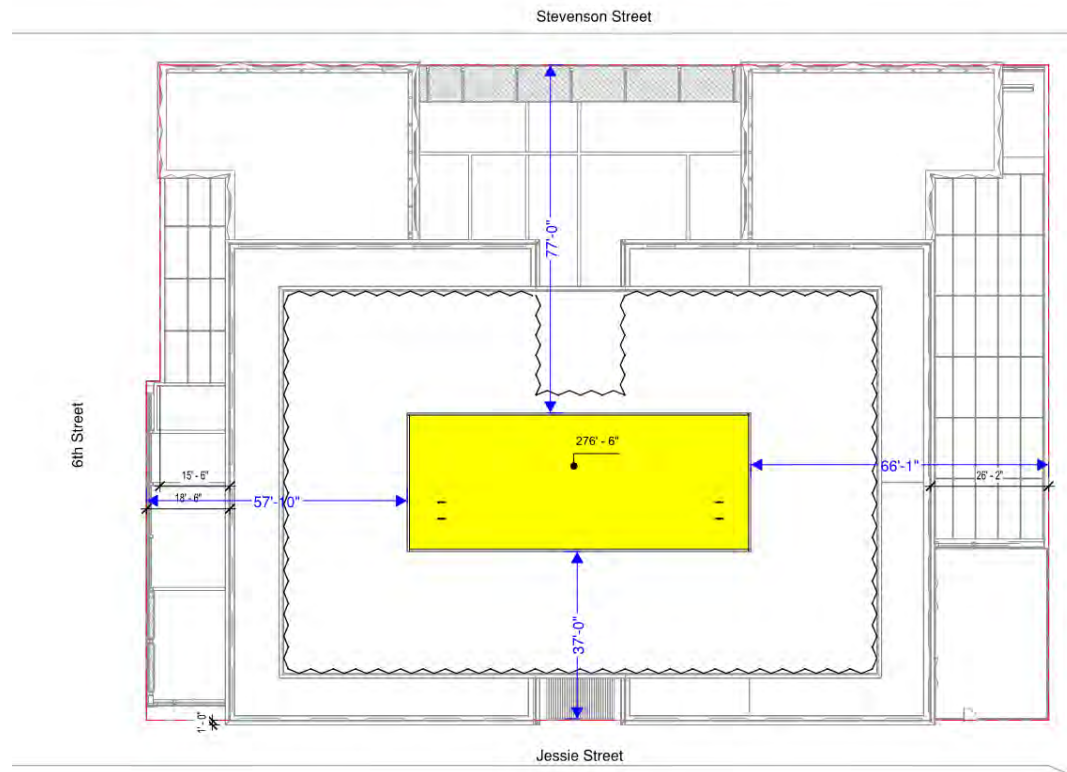
Noise from HVAC equipment can vary greatly, depending on the size of the equipment and the type of equipment used. The project sponsor has verified that water-source heat pumps are planned for the residential units and the main pieces of mechanical equipment would be located on the roof⁷. While the project sponsor has not selected the exact mechanical equipment to be installed on the project site, the following assumptions were used in the exterior analysis of the mechanical equipment based on HVAC equipment similar to standard package units installed on buildings similar to the proposed project:

- A standard HVAC unit would produce sound pressure levels in the range of 70 to 75 dBA at 50 feet.[1].⁸
- The mechanical equipment was assumed to be centrally located in the mechanical area indicated on the roof as shown in the yellow-highlighted area below in Figure 2:

⁷ August 19, 2019 e-mail from Victoria Lehman, Build

⁸ Hoover and Keith, Noise Control for Buildings, Manufacturing Plants, Equipment, and Products, 2000, Houston, TX.

Figure 2: Assumed Location of Rooftop Mechanical Equipment



- The mechanical area is visually blocked from the surrounding buildings by a 9 foot, 3-inch tall screen. Even though there is a screen, effects of the screen were not considered in the analysis to meet the requirements of the San Francisco Police Code section 2909(a) because this code requirement is a “property plane” requirement. This means the noise level requirements listed in the code must be met at an infinite vertical plane as defined by the subject project’s property line. Therefore, this analysis is conducted just above the screen during nighttime hours to simulate a worst-case scenario.

Using the sound pressure levels and the analysis assumptions listed above, the results of the noise levels from exterior mechanical systems at the property plane are as follows:

Table 9: Calculated Rooftop Mechanical Equipment Noise Levels at the Project Property Planes

Property Plane	Nighttime Ambient Noise Level	2909(a) Noise Limit (Ambient + 5 dB(A))	Distance between Mechanical Area and Property Plane	Estimated Noise Level at Property Plane	Exceeds 2909(a) Noise Limit?
Stevenson Street	57.5 dB(A)	62.5 dB(A)	77'-0"	74.2 dB(A)	Yes
Jessie Street	55.0 dB(A)	60.0 dB(A)	37'-0"	80.5 dB(A)	Yes
Western property plane (near Sixth Street)	55.0 dB(A)	60.0 dB(A)	57'-10"	76.7 dB(A)	Yes
Eastern property plane (near Fifth Street)	57.5 dB(A)	62.5 dB(A)	66'-1"	75.0 dB(A)	Yes

The supporting calculations for the property plane noise analysis are attached to this memo in Appendix 4.

A minimum of 20.5 dB(A) noise reduction is required from the rooftop equipment to achieve the requirements of the San Francisco Police Code Section 2909(a) during nighttime hours. The project sponsor shall implement the following mitigation measures to reduce noise levels from the source equipment and achieve compliance with the police code:

- Enclose as much of the proposed project's rooftop equipment as possible within a mechanical room with small louvered openings to the exterior. The mechanical room and louvered openings can be treated with acoustic absorption and sound attenuators to reduce noise at the property planes.
- If the equipment remains open to the roof, select rooftop equipment with a maximum sound pressure level of 54.4 dB(A) at 50 feet' from the equipment.
- Attach sound attenuators to the outside air and exhaust air openings/fans of the rooftop equipment to minimize environmental noise.

During the design phase, once the project sponsor has selected the specific HVAC and mechanical equipment for the proposed project, a qualified acoustical consultant shall conduct a property plane noise analysis. The property plane analysis report shall evaluate whether the proposed HVAC and mechanical equipment complies with the noise limits in the San Francisco Police Code. The report shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a building permit or building permit addendum that would permit the HVAC and mechanical equipment.

HVAC and Mechanical Systems Interior Noise

Per San Francisco Police Code section 2909(d, fixed noise sources cannot intrude into a sleeping or living room in any dwelling unit located on residential property to produce interior noise levels that exceed 45 dB(A) between the hours of 10:00 PM to 7:00 AM or 55 dB(A) between the hours of 7:00 AM to 10:00 PM. The tallest closest noise-sensitive receptors to the 469 Stevenson Project are at 47-Sixth Street (approximately 20 feet from the project site with a building height of 85'-0" and 973 Market Street (approximately 22 feet from the project site with a building height of 101'-0". These residential buildings are the tallest buildings located directly adjacent to the Project site and therefore, the residential units in these buildings will be the closest to the rooftop mechanical equipment on the 469 Stevenson Street building.

Noise from the projected project's rooftop equipment to these residential properties was calculated to verify compliance with section 2909(d) of the San Francisco Police Code. All analysis assumptions listed above under HVAC and Mechanical Systems Exterior Noise also apply for the interior noise analysis, except the screen. Because the section 2909(d) analysis is a point calculation to the closest residential units and not a property plane analysis, the effects of the 9 foot 3-inch tall screen shielding the rooftop mechanical equipment was included in the analysis of interior noise for the mechanical systems. The interior noise analysis also accounts for a 15 dB(A) reduction in noise from the building façade. This is a typical noise reduction factor that assumes windows are open. The results of the interior noise analysis are shown in Table 10 below. The supporting calculations for the interior residential noise analysis are included at the end of this memo in Appendix 4.

Table 10: Calculated Rooftop Mechanical Equipment Noise Levels at the Nearest Residential Receptors

Receptor Location	Estimated Rooftop Equipment Noise Level at Residence	Façade Noise Reduction ⁹	Calculated Interior Noise Level	Criterion	Exceeds Criterion?
47 Sixth Street	41.5 dB(A)	15 dB(A)	26.5 dB(A)	45 dB(A)	No
973 Market Street	42.7 dB(A)	15 dB(A)	27.7 dB(A)	45 dB(A)	No

Emergency Generators

One emergency generator is planned for the proposed project. The generator is planned to be located within the main electrical room on the ground floor in the southwest portion of the property. The exact discharge, intake, and exhaust pipe paths for the generator are not yet known. The generator would be tested regularly, typically once per month. However, the generator will require a permit to operate from the Bay Area Air Quality Management District, which typically permits emergency generators to operate for testing purposes up to 50 hours per year. The generator would typically be tested during the weekday, daytime hours. Given the generator would be located in an enclosed room and operate at most 1 hour per week during daytime hours, noise from the generator is not anticipated to substantially increase daytime ambient noise levels.

Short-Term Construction Noise

Daytime Construction Noise

Construction activities associated with the proposed project would include site preparation and demolition, excavation and shoring, foundation and below grade work, building construction, exterior finishing, and sitework/paving. Each construction stage has its own mix of equipment and, consequently, its own noise characteristics. These various construction operations would change the character of the noise generated at the project site and, therefore, the ambient noise level as construction progresses. The loudest phases of construction include excavation and shoring and building construction phases, as the noisiest construction equipment is earthmoving and grading equipment and concrete/industrial saws. Table 11 lists types of construction equipment that may be used throughout construction and the maximum and average noise level as measured at 20 feet from the operating equipment. The 20-foot distance represents the approximate distance between the project property line and the closest noise-sensitive receptors at 35 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47 Sixth Street, which are hotels and residential over retail. The 20-foot distance represents a worst-case assessment of noise impacts on nearby receptors because it assumes the equipment operates at the property line closest to the sensitive receptor. The project site is approximately 170

⁹ Façade noise reduction is typically 15 dBA with windows open. See http://researchrepository.napier.ac.uk/2040/1/TWFrnpNANR_116.pdf

feet wide along its Jesse and Stevenson street frontages and therefore equipment will often be operating at distances greater than 20-feet from the closest sensitive receptors.

Table 11: Summary of Construction Equipment Noise Levels at the Nearest Noise-Sensitive Receptor

Equipment	Distance to Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor		
		Lmax, dB(A)	Acoustical Use Factor (%)	Leq, dB(A)
Backhoe	20 feet	85.5	40	81.5
Crane	20 feet	88.5	16	80.6
Concrete Mixer Truck	20 feet	86.8	40	82.8
Concrete Saw	20 feet	97.5	20	90.5
Compressor (air) ¹	20 feet	85.6	40	81.6
Excavator	20 feet	88.7	40	84.7
Front End Loader ²	20 feet	87.1	40	83.1
Flat Bed Truck	20 feet	82.2	40	78.2
Grader	20 feet	93.0	40	89.0
Paver	20 feet	85.2	50	82.2
Welder / Torch	20 feet	82.0	40	78.0
Tractor ³	20 feet	92.0	40	88.0
Man Lift ⁴	20 feet	82.7	20	75.7
Drill Rig	20 feet	87.1	20	80.1
Dump Truck	20 feet	84.4	40	80.4
Pumps	20 feet	88.9	50	85.9
Source: Stantec 2019, Federal Highway Administration Roadway Construction Noise Model Version 1.1, 2008 Notes: 1. Used to approximate noise from a pressure washer for this project. 2. Used to approximate noise from the skid steer loader for this project. 3. Used to approximate noise from the forklift and rough-terrain forklift for this project. 4. Used to approximate noise from the aerial lift and scissor lift for this project.				

Construction of the entire project would be conducted in sequential phases and each phase would use different pieces of construction equipment. The noise-producing equipment for each construction phase as defined by the Project Sponsor are shown in Table 12.

Table 12: Construction Phases and Equipment

Construction Phase	Equipment
Site Preparation / Demolition	Dump Truck (2) Excavator (1)
Excavation and Shoring	Bore / Drill Rigs (1) Dumper / Tenders (1) Excavators (1) Skid Steer Loaders (1) Tractors / Loaders / Backhoes (1) Aerial Lifts (1) Dump Truck (2)
Foundation and Below Grade Construction	Concrete Pump (1) Manlift (1) Dump Truck (1)
Building Construction	Aerial Lifts (1) Cranes (1) Forklift (1) Rough Terrain Forklifts (1) Electric-Powered Welders (1) Concrete / Industrial Saws (2) Dump Truck (1) Manlift (1) Scissor Lift (3) Welders (1)
Exterior Finishing	Air Compressors (1) Forklift (1) Manlift (1) Welders (1)
Sitework / Paving	Cement and Mortar Mixers (1) Pavers (1) Paving Equipment (1) Pressure Washer (1)

A worst-case condition for construction activity would assume all noise-generating equipment for each construction phase were operating at the same time and at the same distance away from the closest noise-sensitive receptor. Using this assumption, the RCNM program calculated the following combined Leq and Lmax noise levels from each phase and stage of construction as shown in Table 13.

Table 13: Calculated Noise Level from Each Construction Phase

Construction Stage	Distance to Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor	
		Lmax, dB(A)	Leq, dB(A)
Site Preparation / Demolition	20 feet	91.1 dB(A)	87.1 dB(A)
Excavation and Shoring	20 feet	95.0 dB(A)	90.5 dB(A)
Foundation and Below Grade Construction	20 feet	91.2 dB(A)	85.0 dB(A)
Building Construction	20 feet	102.2 dB(A)	96.1 dB(A)
Exterior Finishing	20 feet	93.6 dB(A)	89.4 dB(A)
Sitework / Paving	20 feet	91.8 dB(A)	88.2 dB(A)

The construction noise modeling output results are attached to this memo in Appendix 5.

Construction noise during the Excavation and Shoring Phase and the Building Construction phase are expected to exceed the FTA 90 dB(A) Leq guideline at the closest noise-sensitive receptors. The excavation and shoring phase is expected to take approximately two months to complete. Building construction is expected to take a total of about 29 months to complete. The loudest part of the building construction phase is anticipated to be during the beginning of the phase when the concrete/industrial saws would be used. The Building Construction phase, the Exterior Finishing Phase, and the Sitework/Paving Phase will all run concurrently.

Because the ambient daytime noise level in the project vicinity is approximately 70 dBA, noise levels from all phases of construction are expected to be 10 dB(A) above the ambient noise level at the closest sensitive receptors. As discussed previously, a 10 dBA increase in noise level is perceived as a doubling of loudness.

The entire construction process is expected to take approximately 36 months to complete. Therefore, noise sensitive receptors would be potentially exposed to noise levels 10 dBA above the ambient for the entire duration of construction. However, noise levels would fluctuate throughout the day depending upon the specific equipment being used at any one time. While the construction activity will extend over 36 months, the use of the most noise producing equipment, such as bulldozers, graders, and concrete/industrial saws would be limited to the excavation/shoring phase and the first part of the building construction phases.

Nighttime Construction Noise

Most construction would occur during daytime hours, but some nighttime construction would occur. During the total 36-month construction phase, nighttime construction work may be required on up to five (5) nights and would include the following activities:

1. Erection and dismantling of the tower crane;
2. Miscellaneous utility work
3. Fire alarm testing; and
4. Concrete pour for the mat slab foundation

This required nighttime work would occur at different times throughout the 36-month construction period and not for 5 sequential nights. Therefore, given the duration of nighttime work it is not expected to result in sleep disturbance for a substantial period of time.

Construction Noise Control Measures

The following measures would reduce construction noise at nearby sensitive receptors.

Construction Noise Control Plan

The project sponsor shall develop site-specific noise attenuation measures under the supervision of a qualified acoustical consultant. At the end of the design phase of this project and prior to commencing construction, the project sponsor shall submit a noise attenuation plan to the San Francisco Planning Department and Department of Building Inspection to ensure maximum feasible noise attenuation will be achieved. The noise attenuation plan shall reduce construction noise to the degree feasible with a goal of reducing construction noise levels at adjacent noise sensitive receptors (residential, hotel, hospital, convalescent home, school, and church uses) so that noise levels do not exceed 90 dBA and 10 dBA above ambient daytime noise levels. The project sponsor shall include noise attenuation measures in specifications provided to the general contractor and any sub-contractors. Noise attenuation measures shall, at minimum, include the following:

- Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds), wherever feasible.
- Require the general contractor to perform all work in a manner that minimizes noise to the extent feasible; use equipment with effective mufflers; undertake the noisiest activities during times of least disturbance to surrounding residents and occupants, as feasible.
- Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.
- Require the general contractor to erect temporary plywood noise barriers (at least 0.5-inch-thick) around stationary noise sources and/or the construction site, particularly where a noise source or the site adjoins noise-sensitive uses. The barriers shall be high enough to block the line of sight from the dominant construction noise source to the closest noise-sensitive receptors. Depending on factors such as barrier height, barrier extent, and distance between the barrier and the noise-producing equipment or activity, such barriers may reduce construction noise by 3–15 dBA at the locations of nearby noise-sensitive receptors.
- Require the general contractor to use noise control blankets on a building structure as the building is erected to reduce noise emission from the site.
- Require the general contractor to line or cover hoppers, storage bins, and chutes with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Unless safety provisions require otherwise, require the general contractor to adjust audible backup alarms downward in sound level while still maintaining an adequate signal-to-noise ratio for alarm

effectiveness. Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed to reduce reliance on high-amplitude sonic alarms/beeps.

- Require the general contractor to place stationary noise sources, such as generators and air compressors, on the east side of the project site, as far away from nearby noise-sensitive receptors as possible. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.
- Require the general contractor to place non-noise-producing mobile equipment, such as trailers, in the direct sound pathways between suspected major noise-producing sources and noise-sensitive receptors.
- Under the supervision of a qualified acoustical consultant, the project sponsor shall monitor the effectiveness of noise attenuation measures by taking noise measurements before any construction or ground disturbing activity and regularly during each phase of construction.
- Prior to the issuance of a building permit, along with the submission of construction documents, the project sponsor shall submit to the planning department and building department a list of measures that shall be implemented and that shall respond to and track complaints pertaining to construction noise. These measures shall include:
 - (1) posted signs on-site pertaining to permitted construction days and hours;
 - (2) a procedure and phone numbers for notifying the building department and the San Francisco Police Department (during regular construction hours and off-hours). This telephone number shall be maintained until the proposed project has been considered commissioned and is ready for occupancy. If the telephone is not staffed 24 hours per day, the contractor shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended;
 - (3) a sign posted on site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction;
 - (4) designation of an on-site construction complaint and enforcement manager for the project who shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints; and
 - (5) notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating anticipated noise levels of 90 dBA or greater, about the estimated duration of the activity).

Construction Vibration

During construction of the proposed project, equipment may be used as close as 20 feet from the nearest sensitive receptors along Sixth Street. Also, older and historic buildings can be damaged by excessive vibration associated with construction activities.

Sleep Disturbance from Vibration

As discussed above, nighttime construction work would be limited to 8 total nights over the entire 36-month construction period. It is not anticipated that nighttime construction work would require vibration generating equipment. Therefore, construction activities are not expected to result in vibration during nighttime hours that would be perceptible and thereby result in sleep disturbance.

Building Damage Assessment

The properties nearest to the project site that are most susceptible to vibration are as follows:

- 35 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47 Sixth Street – Approximately 20' from the Project site. All of these buildings are historic resources according to the San Francisco Planning Department South of Market Historic Resource Survey Map¹⁰ and the associated Primary Records¹¹. These buildings are constructed of masonry or concrete clad in textured stucco and capped by a flat roof. Therefore, these buildings are assumed to be under the "Historic and Some Old Buildings" category as defined by Caltrans.
- 979-989 Market Street – Approximately 22' from the Project site. This is a non-historic building, but originally constructed in 1907. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 973 Market Street – Approximately 22' from the Project Site. Non-historic building, but originally constructed in 1904. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old Buildings".
- Clearway Energy Thermal Power Station – Main Building and Smokestack Approximately 40' from the Project Site. Non-Historic Building. Based on observation and electronic visual references, the smokestack is assumed to be constructed with concrete and masonry with no plaster and would likely fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 481, 479, 477 Jessie Street – Approximately 40' from Project Site. Non-historic buildings, but originally constructed in 1922. Based on observation and electronic visual references, these buildings are assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 65-83 Sixth Street – Approximately 52' from Project Site. Non-historic buildings, but originally constructed in 1913. Based on observation and electronic visual references, these buildings are assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

¹⁰ (<https://sfplanning.org/resource/south-market-historic-resource-survey-map>)

¹¹ <https://sfgov.org/sfplanningarchive/ftp/files/GIS/SouthSoMa/Docs/3704%20051.pdf>

- 972-976 Mission – Approximately 42' from Project Site. Non-historic building, but originally constructed in 1925. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 968 Mission Street – Approximately 42' from Project Site. Non-historic building, but originally constructed in 1930. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 471 Jessie Street – Approximately 42' from Project Site. Non-historic building, but originally constructed in 1912. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 956-960 Mission Street – Approximately 51' from Project Site. Non-historic building, but originally constructed in 1910. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.
- 995 Market / 1 Sixth Street – Approximately 38' from Project Site. Non-historic building, but originally constructed in 1908. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

Table 14 estimates the vibration levels at the nearest receptors to the project site generated by construction equipment that is expected to produce groundborne vibration. As stated previously in this memo, vibration levels are determined using the following formula, $PPV = PPV_{ref} \times (25/Distance)^{1.5}$, where PPV_{ref} is as listed in Table 3.

Table 14: Vibration Source Levels for Construction Equipment

Equipment	Estimated PPV at 20 Feet	Estimated PPV at 22 Feet	Estimated PPV at 40 Feet
Large bulldozer ¹	0.12	0.11	0.044
Caisson drilling ²	0.12	0.11	0.044
Loaded trucks	0.11	0.092	0.038
Small bulldozer	0.042	0.036	0.015
Source: Federal Transit Administration 2018			
Notes:			
1. Used to approximate vibration from a large tractor, backhoe, and loader for this project			
2. Used to approximate vibration from a drill rig for this project.			

Table 15 shows the expected vibration levels at the neighboring buildings from construction activity related to the estimated Caltrans Construction Vibration Damage Criteria:

Table 15: Expected Construction Vibration Levels at Closest Properties Related to Caltrans Criteria

Vibration-Sensitive Buildings	Caltrans Building Damage Criteria	Distance between Vibration Sensitive Building and Project Site	Calculated Maximum PPV at Property	Exceeds Criteria?
35-37 Sixth Street	0.25	20 feet	0.12	No
39-41 Sixth Street	0.25	20 feet	0.12	No
43-45 Sixth Street	0.25	20 feet	0.12	No
47-51 Sixth Street	0.25	20 feet	0.12	No
53-55 Sixth Street	0.25	20 feet	0.12	No
65-83 Sixth Street	0.25	52 feet	0.03	No
Clearway Energy Thermal Power Station	0.25	40 feet	0.04	No
986 Mission Street / 481 Jessie Street	0.25	42 feet	0.04	No
972-976 Mission Street	0.25	42 feet	0.04	No
968 Mission Street	0.25	42 feet	0.04	No
471 Jessie Street	0.25	42 feet	0.04	No
956-960 Mission Street	0.25	51 feet	0.03	No
995 Market Street / 1 Sixth Street	0.25	38 feet	0.05	No
979-989 Market Street	0.25	22 feet	0.11	No
973 Market Street	0.25	22 feet	0.11	No
Clearway Energy Thermal Power Station	0.25	40 feet	0.04	No
481 Jessie Street	0.25	42 feet	0.04	No
479 Jessie Street	0.25	42 feet	0.04	No
477 Jessie Street	0.25	42 feet	0.04	No

As shown in Table 15, construction activities and equipment as proposed by the project sponsor would not generate vibration levels that exceed the building damage criteria.

Cumulative Noise

There are currently 17 cumulative projects in proximity to the proposed project. One of these projects are transportation network projects (Better Market Street Project) and the rest are development projects. Thirteen of these cumulative projects are within 0.25 mile (1,320 feet) of the 469 Stevenson project site such that their construction and operational noise would have the potential to combine with the project's construction and operational noise at the nearest sensitive receptor locations. These projects include the following:

- 1025 Howard Street (Howard and Sixth Streets)
- 1055 Market Street (Between Sixth and Seventh Streets)
- 1082 Howard Street (Between Sixth and Seventh Streets)
- 1088 Howard Street (Howard and Seventh Streets)
- 1125 Market Street (Between Seventh and Eighth Streets)
- 457-475 Minna Street (Between Fifth and Sixth Streets)
- 481-483 Tehama Street (Tehama and Sixth Streets)
- 527 Stevenson Street (Stevenson and Sixth Streets)
- 57 Taylor Street (Taylor and Market Streets)
- 921 Howard Street (Between Fifth and Sixth Streets)
- 984 Folsom Street (Folsom and Sixth Streets)
- 996 Mission Street (Between Fifth and Sixth Streets)
- Better Market Street (Market Street, between Octavia Boulevard to Steuart Street)

Construction Noise

Of these projects, the closest to the 469 Stevenson Street Project are the, the 996 Mission Street project, the Better Market Street project, and the 527 Stevenson Street project, being about, 145 feet, 246 feet, and 425 feet away from the project site, respectively. All other project sites are separated from the proposed project by an extended distance. All cumulative projects would have multiple existing buildings between them and the 469 Stevenson Street project site that would provide shielding of their construction to limit the noise which combines with the project construction noise, if they were to be constructed simultaneously. Also, construction at all the cumulative project sites would be subject to the same noise regulations as the proposed project, such as limiting construction hours and equipment noise levels. In addition, the noisiest phases of demolition, construction, excavation, and foundation installation, would be relatively brief and less likely to overlap than the less noisy phases of construction, such as interior work. However, given the large number of cumulative projects nearby and the potential for numerous projects to be under construction simultaneously as the proposed project, cumulative construction noise could be substantial by both increasing the intensity of noise levels in the area and the duration that sensitive receptors experience construction noise. The noise control measures identified above are recommended and would reduce the contribution of construction noise generated by the proposed project.

Construction Vibration

Vibration effects are highly localized, and vibration attenuates rapidly from the source. Therefore, vibration impacts attributable to construction activities generally would be limited to buildings and structures adjacent to the project site. Since the proposed project would not result in vibration-related damage to adjacent structures during construction activities, vibration effects are localized and attenuate rapidly with distance from the source, vibration-generating equipment from the proposed project would not likely combine with that of even

the closest cumulative projects (996 Mission Street, Better Market Street, and Sixth Street Improvement projects) to result in cumulative vibration effects that would damage nearby buildings.

Operational Noise

With respects to operational noise, the proposed project would include new fixed noise sources that would produce operational noise on the project site. Similar new fixed noise sources would produce noise for the cumulative development projects within a 0.25-mile radius of the project site, such as the 996 Mission Street and 527 Stevenson Street projects. This could result in a permanent increase in ambient noise above existing levels. However, noise from the proposed project's mechanical equipment and mechanical equipment from the cumulative projects would be localized, would attenuate with added distance, and would be required to comply with the noise regulations of the San Francisco Police Code. Therefore, the proposed project and cumulative projects would be unlikely to combine to increase ambient noise levels in the area.

Cumulative development projects would also result in operational noise from project-generated vehicular traffic. To estimate future cumulative noise levels due to traffic, peak hour cumulative plus project traffic estimates were used to determine the percent increase of traffic on the roads adjacent to the project site. Due to expected changes in traffic patterns and vehicle restrictions from the Better Market Street Project along Market Street and the Sixth Street Pedestrian Safety Project, the 469 Stevenson Street project plus cumulative projects would actually reduce future peak hour traffic volumes and associated traffic noise along Market Street and Sixth Street. Table 16 shows the existing and cumulative future peak hour traffic volume on the local roadway network. The last columns in the table show the overall percent change and the estimated difference in peak hour noise level.

Table 16: Cumulative Peak Hour Traffic Volumes and Estimated Noise Increase

Roadway	Existing Peak Hour Traffic Count	Cumulative Peak Hour Traffic Volumes with Project	Percent Change	Estimated dB(A) Change
Market Street	580	400	-31%	-1.2 dB(A)
Sixth Street	1,844	1,561	-15%	-0.6 dB(A)
Stevenson Street	108	244	126%	Less than 1 dB(A)
Fifth Street	1,402	2,448	75%	3 dB(A)

Peak traffic is expected to increase approximately 125 percent along Stevenson Street between Fifth Street and Sixth Street with the cumulative projects plus the proposed project. Even though the traffic on Stevenson Street is expected to increase by 125 percent, the overall peak hour traffic number is still very low. Cumulative plus project peak hour traffic volumes on Stevenson Street are only expected to be 244 cars. Traffic volumes this low is not expected to generate a great deal of noise and ambient noise levels at the site would still be dominated by the existing noise sources. The estimated change in ambient noise levels along Stevenson Street is estimated to be below 1 dB(A).

Cumulative plus project peak traffic volumes along Fifth Street between Stevenson Street and Market Street are expected to increase by 75 percent. Traffic increases of 75 percent only increase noise levels approximately 3 dB(A). The project would contribute 28 vehicle trips to Fifth Street under cumulative conditions, which represents a minor proportion of the overall cumulative traffic volume on that segment of Fifth Street.

CONCLUSION

Noise generation associated with the proposed project is typically attributed to the project construction activities. These include site grading, construction of the building and apparatuses, and the increase traffic related to facility use. Operational noise generation can be attributed to the slight increase in traffic volumes from residents as well as from typical commercial and residential fixed mechanical equipment.

Based on the FHWA RCNM, the proposed project can generate high levels of construction noise which are temporary and would not result in long-term noise increases from construction. While the noise levels presented are a “worst-case” scenario and may at times be audible over traffic-related noise levels surrounding the area, these high levels are not expected to be continuous. Moreover, the highest noise levels would occur only during the hours allowed by the San Francisco Police Code and should be reduced by the application of measures to control construction noise at the project site. Noise control techniques should be implemented to ensure that noise generated from temporary construction activities would not be substantial at nearby sensitive receptors.

Stantec Consulting Services Inc.



Tracie Ferguson

Senior Associate - Acoustics

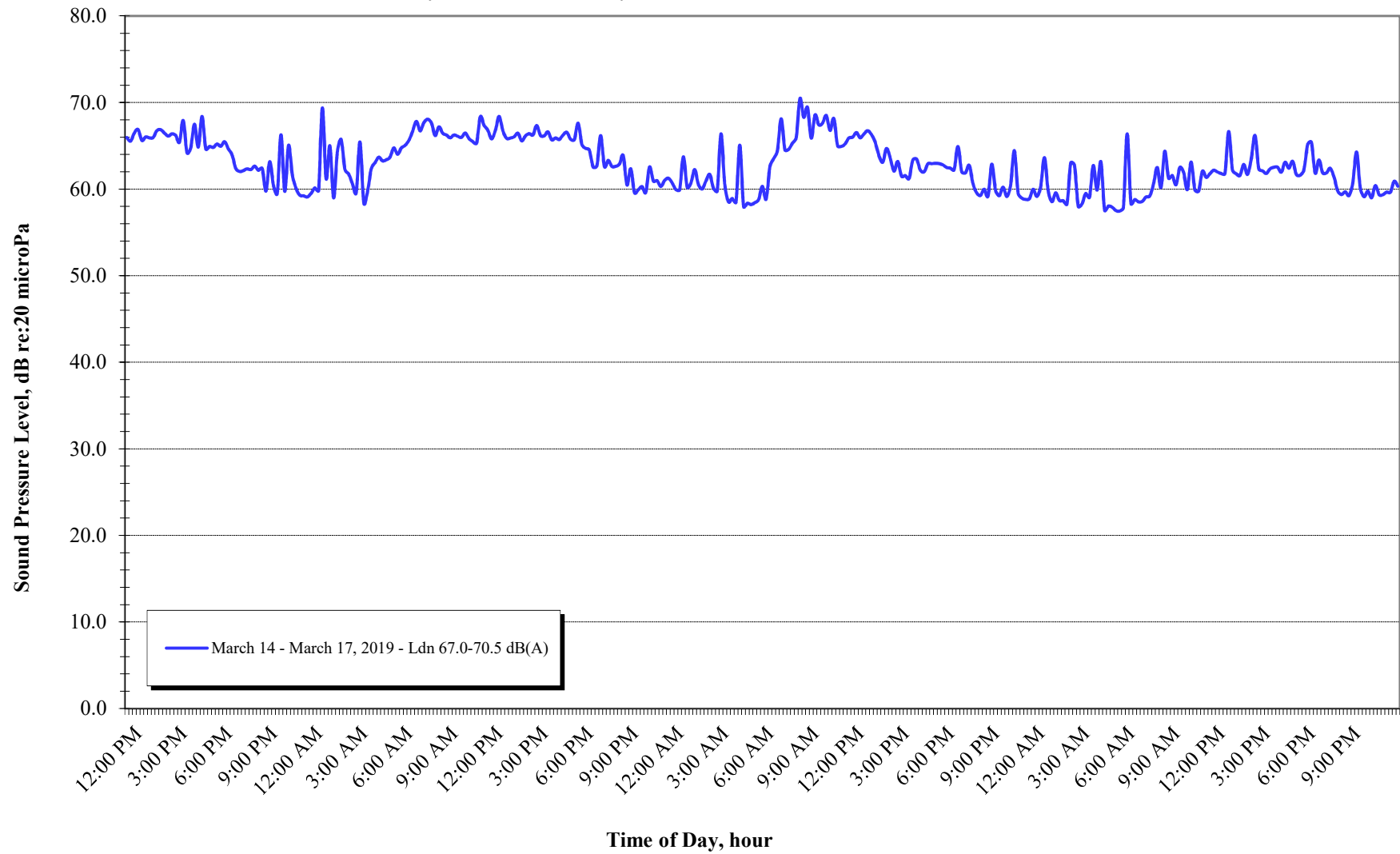
Phone: 415-518-0835

Tracie.Ferguson@stantec.com

APPENDIX 1: Measured Hourly Ambient Noise Levels at Project Site

15-Minute Noise Levels (Leq) at Long Term Measurement Location
Ambient Noise Levels - Thursday, March 14 - Sunday, March 17, 2019

Ambient Noise Levels - Thursday, March 14 - Sunday, March 17, 2019



APPENDIX 2: Noise and Vibration-Sensitive Receivers Within 300-ft of Project Site



- | | | | |
|---|--|--|---------------------------------------|
| 1. The Wilson Apartments at 973 Market Street | 6. The Whitaker Hotel | 11. 460 Jessie Street | 16. 968 Mission Street |
| 2. Hampton Inn San Francisco Downtown | 7. The Hillside Hotel | 12. 65-83 Sixth Street | 17. 471 Jessie Street |
| 3. Desmond Hotel | 8. Oak Tree Hotel | 13. 986 Mission Street/481 Jessie Street | 18. 956-960 Mission Street |
| 4. Seneca Hotel | 9. Winsor Hotel | 14. 980-984 Mission Street/479 Jessie Street | 19. 955 Market Street/ 1 Sixth Street |
| 5. Haveli Hotel | 10. Residential Above 87-89 Sixth Street | 15. 972- 976 Mission Street | 20. 979-989 Market Street |

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

469 Stevenson Street Project

Case No. 2017-014833ENV.

Noise- and Vibration-Sensitive Receptors within 300 feet of Project Site

APPENDIX 3: Peak Hour Traffic Count Noise Calculation Results

469 Stevenson
Traffic Counts
27-Sep-19

Market between 5th and 6th

PM Peak without Project	PM Peak with Project	Estimated dB Increase
580	580	
<hr/>		
580	580	
	0%	0

6th between Stevenson and Market

PM Peak without Project	PM Peak with Project	Estimated dB Increase
1844	1859	
<hr/>		
1844	1859	
	1%	0.0

Stevenson Street between 6th and 5th

PM Peak without Project	PM Peak with Project	Estimated dB Increase
108	152	
<hr/>		
108	152	
	41%	1.6

5th Street between Stevenson and Market

PM Peak without Project	PM Peak with Project	Estimated dB Increase
1402	1430	
<hr/>		
1402	1430	
	2%	0.08

1180 Main Street
Cumulative Traffic Counts
27-Sep-19

Market between 5th and 6th

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
580	400	
580	400	
	-31%	-1.24

6th between Stevenson and Market

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
1844	1561	
1844	1561	
	-15%	-0.6

Stevenson Street between 6th and 5th

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
108	244	
108	244	
	126%	5.04

5th Street between Stevenson and Market

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
1402	2448	
1402	2448	
	75%	3

APPENDIX 4: Property Plane and Interior Residential Calculation Results

Created by: TJF **Date:** 7/26/2019
Revised:
Street Property Plane **Revised:**
Equipment Area **Revised:**

[illegible]

Created by: TJF **Date:** 7/26/2019
Revised:
 sie Street Property Plane **Revised:**
 quipment Area **Revised:**

dB(A)	60.0		dBA	80.5	85	78	77	78	76	74	69	60
-------	------	--	-----	------	----	----	----	----	----	----	----	----

Tag:	Rooftop Mechanical	Created by:	TJF
Area Served:	--		
Run:	Estimated Exterior Noise to 47 6th Street Residential		
Notes:	Property Plane is 57'-10" From Equipment Area		
	Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.		
	Equipment is at 272.4' elevation, Receiver is at 85' elevation.		

Equipment is at 272.4' elevation, Receiver is at 85' elevation.

[illegible]

Tag:	Rooftop Mechanical	Created by:	TJF
Area Served:	--		
Run:	Estimated Exterior Noise to 973 Market Residential		
Notes:	Property Plane is 77'-0" From Equipment Area		
	Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.		
	Equipment is at 272.4' elevation, Receiver is at 101' elevation.		

Date: 7/26/2019

Revised:

Revised:

[illegible]

APPENDIX 5: Roadway Construction Noise Model Output Results

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/19/2019

Case Description: 469 Stevenson Construction Noise - Site Preparation / Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dump Truck	No	40		76.5	20	0
Dump Truck	No	40		76.5	20	0
Excavator	No	40		80.7	20	0

Results

[illegible]

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/19/2019

Case Description: 469 Stevenson Construction Noise - Excavation and Shoring

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

		Impact	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description		Device	Usage(%)			
Drill Rig Truck		No	20	79.1	20	0
Dump Truck		No	40	76.5	20	0
Excavator		No	40	80.7	20	0
Front End Loader	(Steer Skid Loader)	No	40	79.1	20	0
Backhoe		No	40	77.6	20	0
Man Lift	(Aerial Lift)	No	20	74.7	20	0
Dump Truck		No	40	76.5	20	0
Dump Truck		No	40	76.5	20	0

Results

[illegible]

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/19/2019

Case Description: 469 Stevenson Construction Noise - Foundation and Below Grade Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Concrete Pump Truck	No	20		81.4	20	0
Man Lift	No	20		74.7	20	0
Dump Truck	No	40		76.5	20	0

Results

[illegible]

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/19/2019

Case Description: 469 Stevenson Construction Noise - Building Constructor

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

		Equipment					
		Impact	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description		Device					
Man Lift	(Aerial Lift)	No	20		74.7	20	0
Crane		No	16		80.6	20	0
Tractor	(Forklift)	No	40	84		20	0
Tractor	(Rough Terrain Forklift)	No	40	84		20	0
Welder / Torch		No	40		74	20	0
Concrete Saw		No	20		89.6	20	0
Concrete Saw		No	20		89.6	20	0
Dump Truck		No	40		76.5	20	0
Man Lift		No	20		74.7	20	0
Man Lift	(Scissor Lift)	No	20		74.7	20	0
Man Lift	(Scissor Lift)	No	20		74.7	20	0
Man Lift	(Scissor Lift)	No	20		74.7	20	0
Welder / Torch		No	40		74	20	0

Results

[illegible]

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/19/2019

Case Description: 469 Stevenson Construction Noise - Exterior Finishing

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

		Equipment				
			Spec	Actual	Receptor	Estimated
Impact			Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	20	0
Tractor	(Forklift)	No	40	84	20	0
Man Lift	No	20		74.7	20	0
Welder / Torch	No	40		74	20	0

Results

[illegible]

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/19/2019

Case Description: 469 Stevenson Construction Noise - Sitework / Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

		Impact	Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description		Device	Usage(%)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck		No	40	78.8	20	0
Paver		No	50	77.2	20	0
Paver	(Paving Equipment)	No	50	77.2	20	0
Compressor (air)	(Pressure Washer)	No	40	77.7	20	0

Results

[illegible]

APPENDIX B: TRANSPORTATION ANALYSIS



Technical Appendix E.5

469 Stevenson Street Project Initial Study

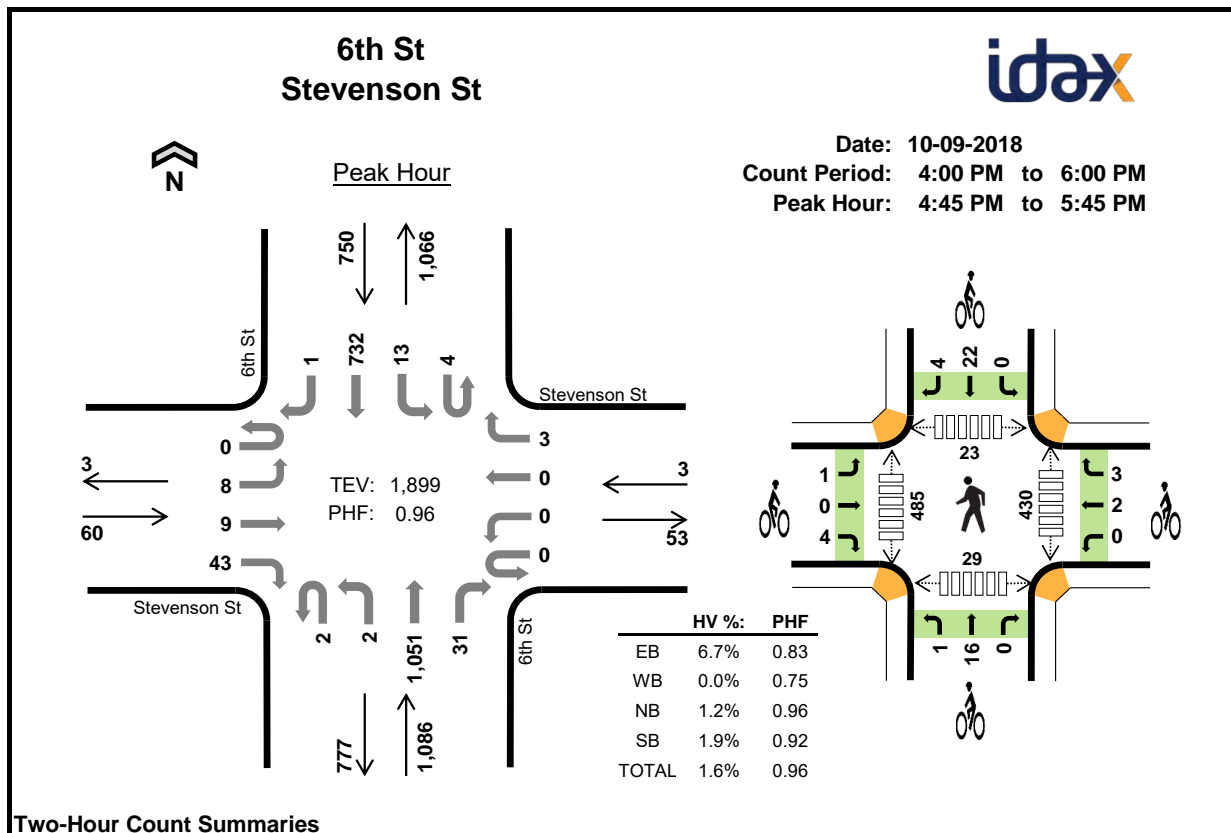
August 2019

SF18-1002

Case No. 2017.014833ENV

Appendix E.5-1

Peak Hour Turning Movement Counts

**Two-Hour Count Summaries**

Interval Start		Stevenson St				Stevenson St				6th St				6th St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	1	0	4	0	0	0	1	0	0	206	7	0	5	197	1	422	0
4:15 PM		0	1	1	7	0	0	0	1	0	1	213	11	3	5	182	2	427	0
4:30 PM		0	0	3	10	0	0	0	0	1	0	224	17	0	3	199	0	457	0
4:45 PM		0	1	2	12	0	0	0	1	1	0	240	7	2	6	181	0	453	1,759
5:00 PM		0	3	3	12	0	0	0	0	0	2	267	7	0	3	199	1	497	1,834
5:15 PM		0	2	3	11	0	0	0	1	1	0	273	8	1	1	171	0	472	1,879
5:30 PM		0	2	1	8	0	0	0	1	0	0	271	9	1	3	181	0	477	1,899
5:45 PM		0	3	0	9	0	0	0	0	0	0	248	9	0	8	176	0	453	1,899
Count Total		0	13	13	73	0	0	0	5	3	3	1,942	75	7	34	1,486	4	3,658	0
Peak Hour	All	0	8	9	43	0	0	0	3	2	2	1,051	31	4	13	732	1	1,899	0
	HV	0	0	2	2	0	0	0	0	1	0	12	0	0	0	14	0	31	0
	HV%	-	0%	22%	5%	-	-	-	0%	50%	0%	1%	0%	0%	0%	2%	0%	2%	0

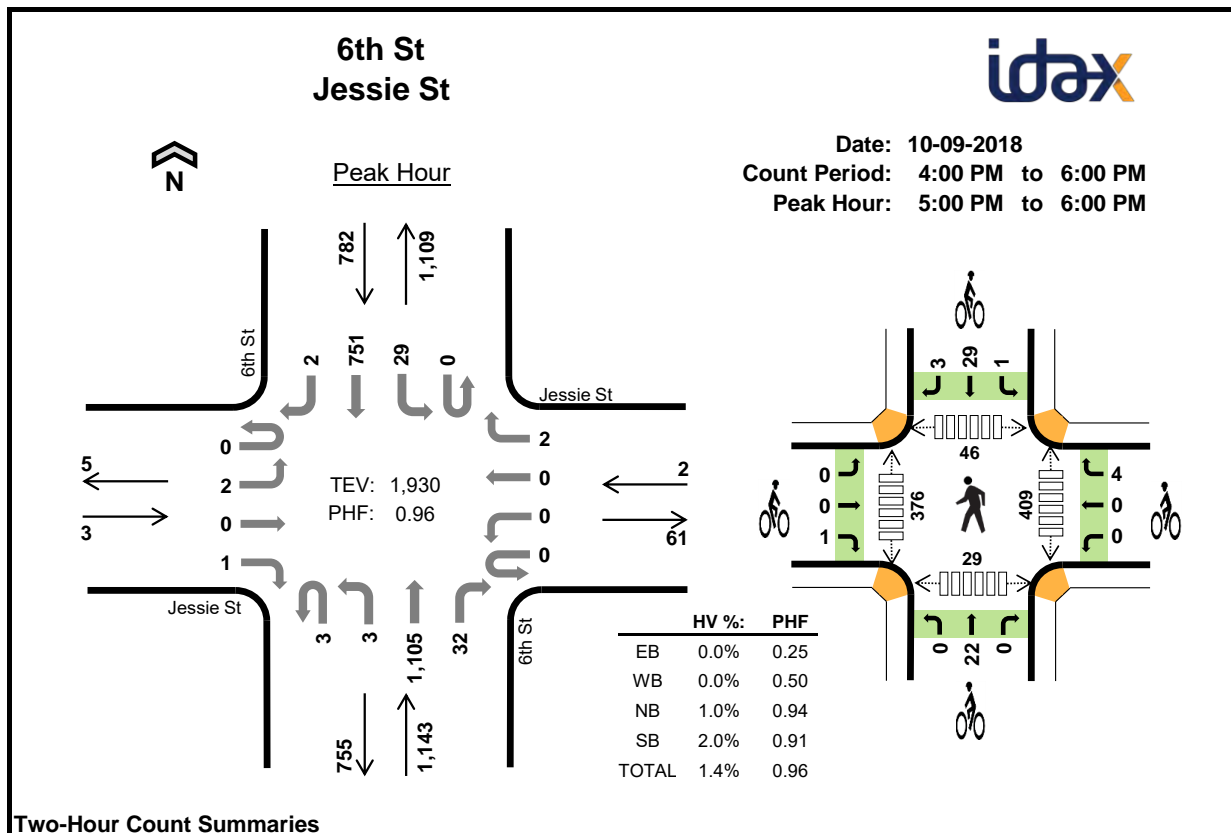
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	4	7	12	2	1	2	2	7	104	130	7	6	247
4:15 PM	2	0	1	6	9	2	5	5	3	15	114	129	4	11	258
4:30 PM	0	0	2	7	9	3	2	3	8	16	107	113	4	6	230
4:45 PM	1	0	6	4	11	0	1	2	7	10	101	114	5	8	228
5:00 PM	3	0	4	3	10	0	2	3	6	11	114	136	6	7	263
5:15 PM	0	0	2	6	8	5	2	6	7	20	130	125	5	5	265
5:30 PM	0	0	1	1	2	0	0	6	6	12	85	110	7	9	211
5:45 PM	0	0	3	4	7	1	1	7	8	17	100	131	5	4	240
Count Total	7	0	23	38	68	13	14	34	47	108	855	988	43	56	1,942
Peak Hour	4	0	13	14	31	5	5	17	26	53	430	485	23	29	967

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Stevenson St				Stevenson St				6th St				6th St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	4	0	0	0	7	0	12	0
4:15 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	5	1	9	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	7	0	9	0
4:45 PM	0	0	1	0	0	0	0	0	1	0	5	0	0	0	4	0	11	41
5:00 PM	0	0	1	2	0	0	0	0	0	0	4	0	0	0	3	0	10	39
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	8	38
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	31
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7	27
Count Total	0	0	2	5	0	0	0	0	1	0	21	1	0	0	37	1	68	0
Peak Hour	0	0	2	2	0	0	0	0	1	0	12	0	0	0	14	0	31	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Stevenson St			Stevenson St			6th St			6th St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	1	1	0	1	0	0	0	2	0	1	1	0	7	0				
4:15 PM	1	0	1	1	3	1	2	3	0	0	3	0	15	0				
4:30 PM	0	1	2	1	0	1	0	3	0	0	8	0	16	0				
4:45 PM	0	0	0	0	0	1	0	2	0	0	3	4	10	48				
5:00 PM	0	0	0	0	1	1	0	3	0	0	6	0	11	52				
5:15 PM	1	0	4	0	1	1	0	6	0	0	7	0	20	57				
5:30 PM	0	0	0	0	0	0	1	5	0	0	6	0	12	53				
5:45 PM	0	0	1	1	0	0	0	5	2	1	7	0	17	60				
Count Total	3	2	8	4	5	5	3	29	2	2	41	4	108	0				
Peak Hour	1	0	4	0	2	3	1	16	0	0	22	4	53	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Jessie St				Jessie St				6th St				6th St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	0	0	1	0	0	0	0	1	2	218	9	0	4	198	0	433	0
	4:15 PM	0	1	0	0	0	0	0	0	0	1	226	13	0	4	186	0	431	0
	4:30 PM	0	0	0	1	0	0	0	0	1	0	238	12	1	8	204	0	465	0
	4:45 PM	0	0	0	1	0	0	0	0	0	1	245	10	0	7	178	2	444	1,773
	5:00 PM	0	2	0	1	0	0	0	0	1	1	273	9	0	7	208	1	503	1,843
	5:15 PM	0	0	0	0	0	0	0	1	0	1	295	7	0	6	184	0	494	1,906
	5:30 PM	0	0	0	0	0	0	0	0	2	1	270	8	0	7	185	0	473	1,914
	5:45 PM	0	0	0	0	0	0	0	1	0	0	267	8	0	9	174	1	460	1,930
Count Total		0	3	0	4	0	0	0	2	5	7	2,032	76	1	52	1,517	4	3,703	0
Peak Hour	All	0	2	0	1	0	0	0	2	3	3	1,105	32	0	29	751	2	1,930	0
	HV	0	0	0	0	0	0	0	0	0	0	11	0	0	1	15	0	27	0
	HV%	-	0%	-	0%	-	-	-	0%	0%	0%	1%	0%	-	3%	2%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	5	7	13	0	0	4	3	7	115	101	13	8	237
4:15 PM	0	0	1	7	8	0	0	4	7	11	109	108	6	12	235
4:30 PM	0	0	4	7	11	0	2	4	8	14	87	111	7	14	219
4:45 PM	0	0	6	4	10	2	0	1	4	7	100	105	10	10	225
5:00 PM	0	0	4	6	10	0	0	3	8	11	105	106	10	11	232
5:15 PM	0	0	2	5	7	0	0	8	11	19	120	86	12	10	228
5:30 PM	0	0	1	1	2	1	1	6	6	14	95	89	13	3	200
5:45 PM	0	0	4	4	8	0	3	5	8	16	89	95	11	5	200
Count Total	1	0	27	41	69	3	6	35	55	99	820	801	82	73	1,776
Peak Hour	0	0	11	16	27	1	4	22	33	60	409	376	46	29	860

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Jessie St				Jessie St				6th St				6th St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	1	4	0	0	0	7	0	13	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	8	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	7	0	11	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	5	1	0	0	4	0	10	42
5:00 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	1	5	0	10	39
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	7	38
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	29
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	8	27
Count Total	0	0	0	1	0	0	0	0	0	1	23	3	0	1	40	0	69	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	11	0	0	1	15	0	27	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Jessie St			Jessie St			6th St			6th St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	3	1	0	3	0	7	0				
4:15 PM	0	0	0	0	0	0	0	4	0	0	7	0	11	0				
4:30 PM	0	0	0	0	0	2	0	3	1	0	8	0	14	0				
4:45 PM	0	0	2	0	0	0	0	1	0	0	4	0	7	39				
5:00 PM	0	0	0	0	0	0	0	3	0	0	7	1	11	43				
5:15 PM	0	0	0	0	0	0	0	8	0	0	10	1	19	51				
5:30 PM	0	0	1	0	0	1	0	6	0	1	5	0	14	51				
5:45 PM	0	0	0	0	0	3	0	5	0	0	7	1	16	60				
Count Total	0	0	3	0	0	6	0	33	2	1	51	3	99	0				
Peak Hour	0	0	1	0	0	4	0	22	0	1	29	3	60	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Parking lot, N. Driveway Stevenson St

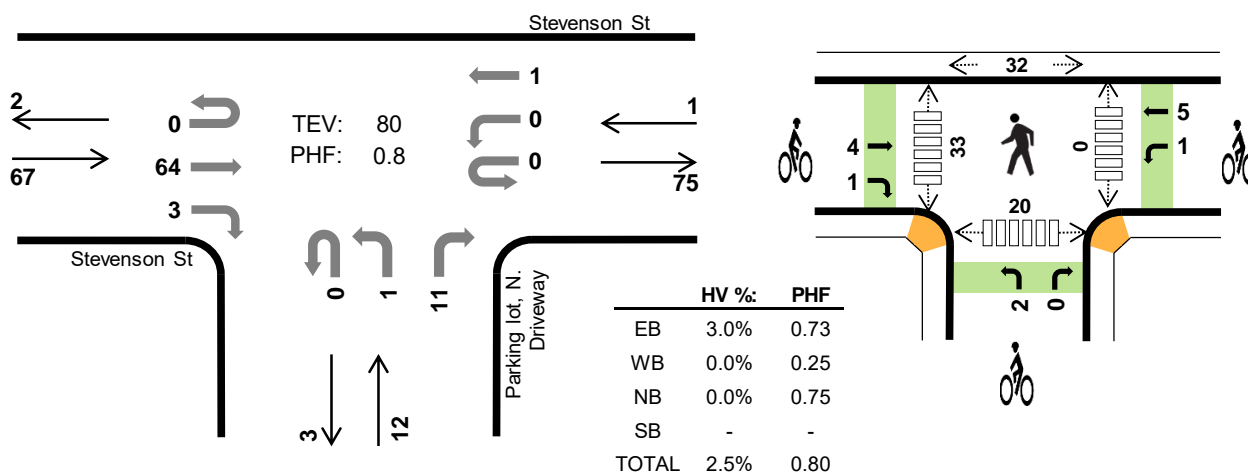


Peak Hour

Date: 10-09-2018

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



Two-Hour Count Summaries

Interval Start		Stevenson St				Stevenson St				Parking lot, N. Driveway				0				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	14	0	0	0	0	0	0	1	0	2	0	0	0	0	17	0
4:15 PM		0	0	14	1	0	0	0	0	0	0	0	3	0	0	0	0	18	0
4:30 PM		0	0	22	1	0	0	0	0	0	0	0	2	0	0	0	0	25	0
4:45 PM		0	0	14	1	0	0	1	0	0	0	0	4	0	0	0	0	20	80
5:00 PM		0	0	13	0	0	0	0	0	0	1	0	2	0	0	0	0	16	79
5:15 PM		0	0	13	0	0	0	0	0	0	1	0	4	0	0	0	0	18	79
5:30 PM		0	0	12	1	0	0	0	0	0	1	0	3	0	0	0	0	17	71
5:45 PM		0	0	17	1	0	0	0	0	0	0	0	4	0	0	0	0	22	73
Count Total		0	0	119	5	0	0	1	0	0	4	0	24	0	0	0	0	153	0
Peak Hour	All	0	0	64	3	0	0	1	0	0	1	0	11	0	0	0	0	80	0
	HV	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	HV%	-	-	3%	0%	-	-	0%	-	-	0%	-	0%	-	-	-	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	3	1	0	0	4	0	10	15	4	29
4:15 PM	1	0	0	0	1	0	3	0	0	3	0	3	9	9	21
4:30 PM	0	0	0	0	0	1	2	2	0	5	0	13	1	3	17
4:45 PM	1	0	0	0	1	1	0	0	0	1	0	7	7	4	18
5:00 PM	1	0	0	0	1	1	0	2	0	3	1	7	12	10	30
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	14	9	4	27
5:30 PM	0	0	0	0	0	1	1	0	0	2	4	8	8	6	26
5:45 PM	0	0	0	0	0	4	1	0	0	5	1	2	5	8	16
Count Total	3	0	0	0	3	11	9	4	0	24	6	64	66	48	184
Peak Hr	2	0	0	0	2	5	6	2	0	13	0	33	32	20	85

Two-Hour Count Summaries - Heavy Vehicles

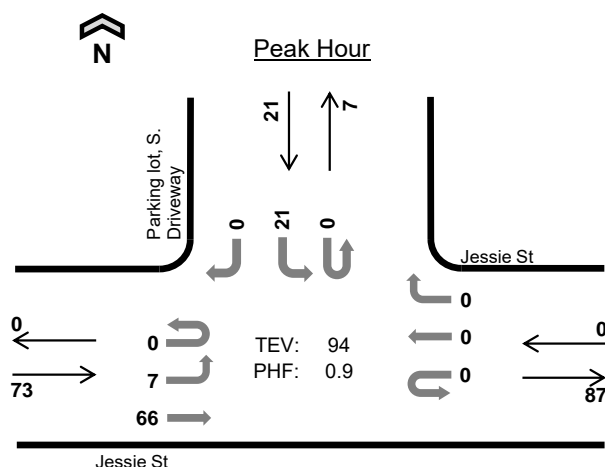
Interval Start	Stevenson St				Stevenson St				Parking lot, N. Driveway				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

Two-Hour Count Summaries - Bikes

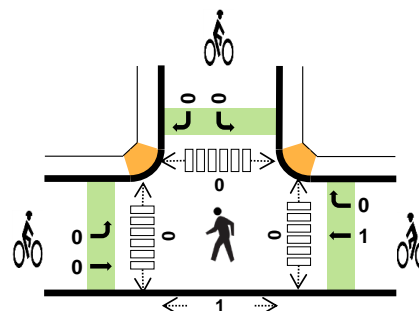
Interval Start	Stevenson St			Stevenson St			Parking lot, N. Driveway			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	1	1	0	0	0	0	0	0	0	0	4	0
4:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	3	0
4:30 PM	0	1	0	0	2	0	2	0	0	0	0	0	5	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	13
5:00 PM	0	1	0	0	0	0	2	0	0	0	0	0	3	12
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	10
5:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	2	7
5:45 PM	0	4	0	0	1	0	0	0	0	0	0	0	5	11
Count Total	0	9	2	1	8	0	4	0	0	0	0	0	24	0
Peak Hour	0	4	1	1	5	0	2	0	0	0	0	0	13	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Parking lot, S. Driveway Jessie St



Date: 10-09-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	5.5%	0.91
WB	-	-
NB	-	-
SB	0.0%	0.66
TOTAL	4.3%	0.90

Two-Hour Count Summaries

Interval Start	Jessie St Eastbound				Jessie St Westbound				0 Northbound				Parking lot, S. Driveway Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	12	0	0	0	0	0	0	0	0	0	0	5	0	0	17	0
4:15 PM	0	1	18	0	0	0	0	0	0	0	0	0	0	3	0	0	22	0
4:30 PM	0	1	19	0	0	0	0	0	0	0	0	0	0	6	0	0	26	0
4:45 PM	0	4	14	0	0	0	0	0	0	0	0	0	0	8	0	0	26	91
5:00 PM	0	1	15	0	0	0	0	0	0	0	0	0	0	4	0	0	20	94
5:15 PM	0	1	11	0	0	0	0	0	0	0	0	0	0	7	0	1	20	92
5:30 PM	0	0	16	0	0	0	0	0	0	0	0	0	0	7	0	1	24	90
5:45 PM	0	0	18	0	0	0	0	1	0	0	0	0	0	4	0	0	23	87
Count Total	0	8	123	0	0	0	0	1	0	0	0	0	0	44	0	2	178	0
Peak Hour	All	0	7	66	0	0	0	0	0	0	0	0	0	21	0	0	94	0
	HV	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0
	HV%	-	0%	6%	-	-	-	-	-	-	-	-	-	0%	-	-	4%	0

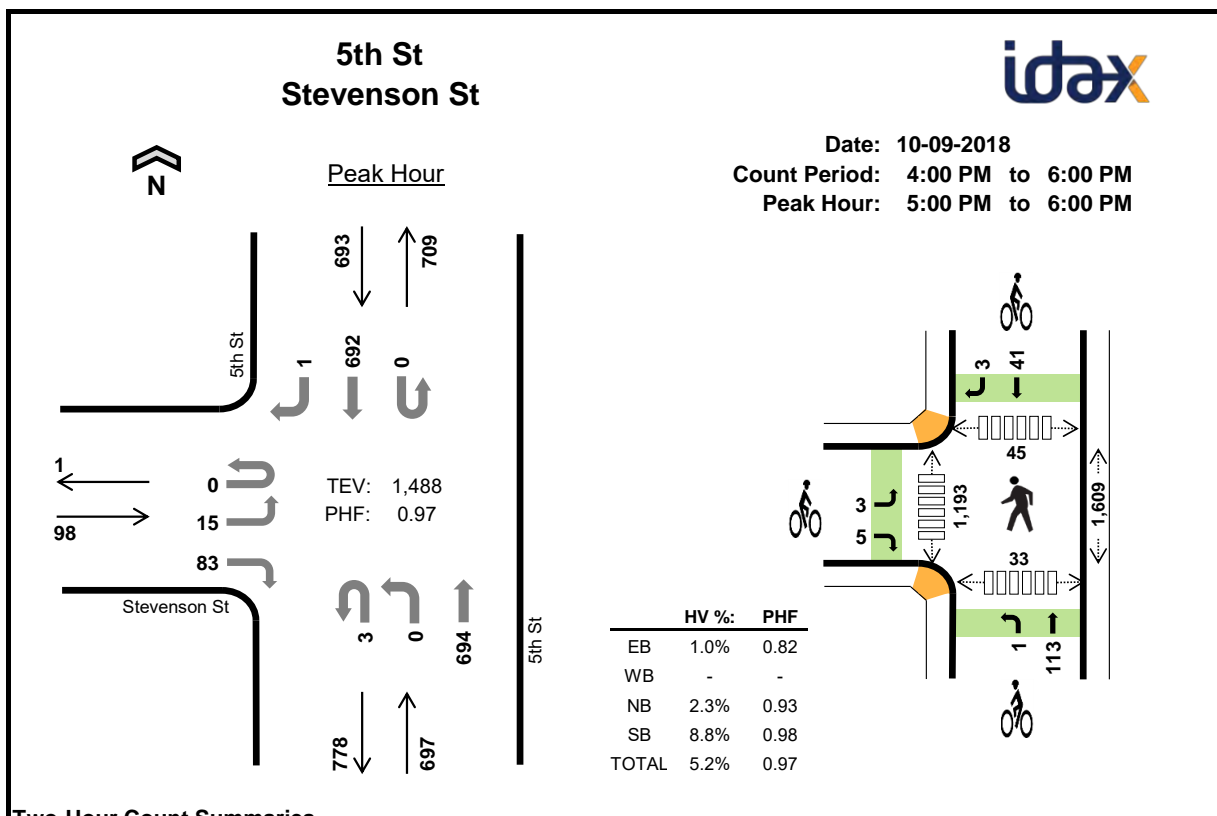
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	1	1
4:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
Count Total	4	0	0	0	4	0	3	0	0	3	0	0	0	4	4
Peak Hr	4	0	0	0	4	0	1	0	0	1	0	0	0	1	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Jessie St				Jessie St				0				Parking lot, S. Driveway				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Peak Hour	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	

Two-Hour Count Summaries - Bikes																	
Interval Start	Jessie St			Jessie St			0			Parking lot, S. Driveway			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	2			
Count Total	0	0	0	0	3	0	0	0	0	0	0	0	0	3			
Peak Hour	0	0	0	0	1	0	0	0	0	0	0	0	0	1			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Stevenson St				0				5th St				5th St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	5	0	12	0	0	0	0	2	0	126	0	0	0	155	1	301	0
4:15 PM		0	3	0	21	0	0	0	0	2	0	180	0	0	0	175	0	381	0
4:30 PM		0	7	0	23	0	0	0	0	0	0	149	0	0	0	156	0	335	0
4:45 PM		0	2	0	19	0	0	0	0	1	0	171	0	0	0	172	1	366	1,383
5:00 PM		0	5	0	18	0	0	0	0	0	0	180	0	0	0	168	1	372	1,454
5:15 PM		0	3	0	20	0	0	0	0	1	0	158	0	0	0	174	0	356	1,429
5:30 PM		0	2	0	20	0	0	0	0	1	0	186	0	0	0	173	0	382	1,476
5:45 PM		0	5	0	25	0	0	0	0	1	0	170	0	0	0	177	0	378	1,488
Count Total		0	32	0	158	0	0	0	0	8	0	1,320	0	0	0	1,350	3	2,871	0
Peak Hour	All	0	15	0	83	0	0	0	0	3	0	694	0	0	0	692	1	1,488	0
	HV	0	0	0	1	0	0	0	0	0	0	16	0	0	0	61	0	78	0
	HV%	-	0%	-	1%	-	-	-	-	0%	-	2%	-	-	-	9%	0%	5%	0

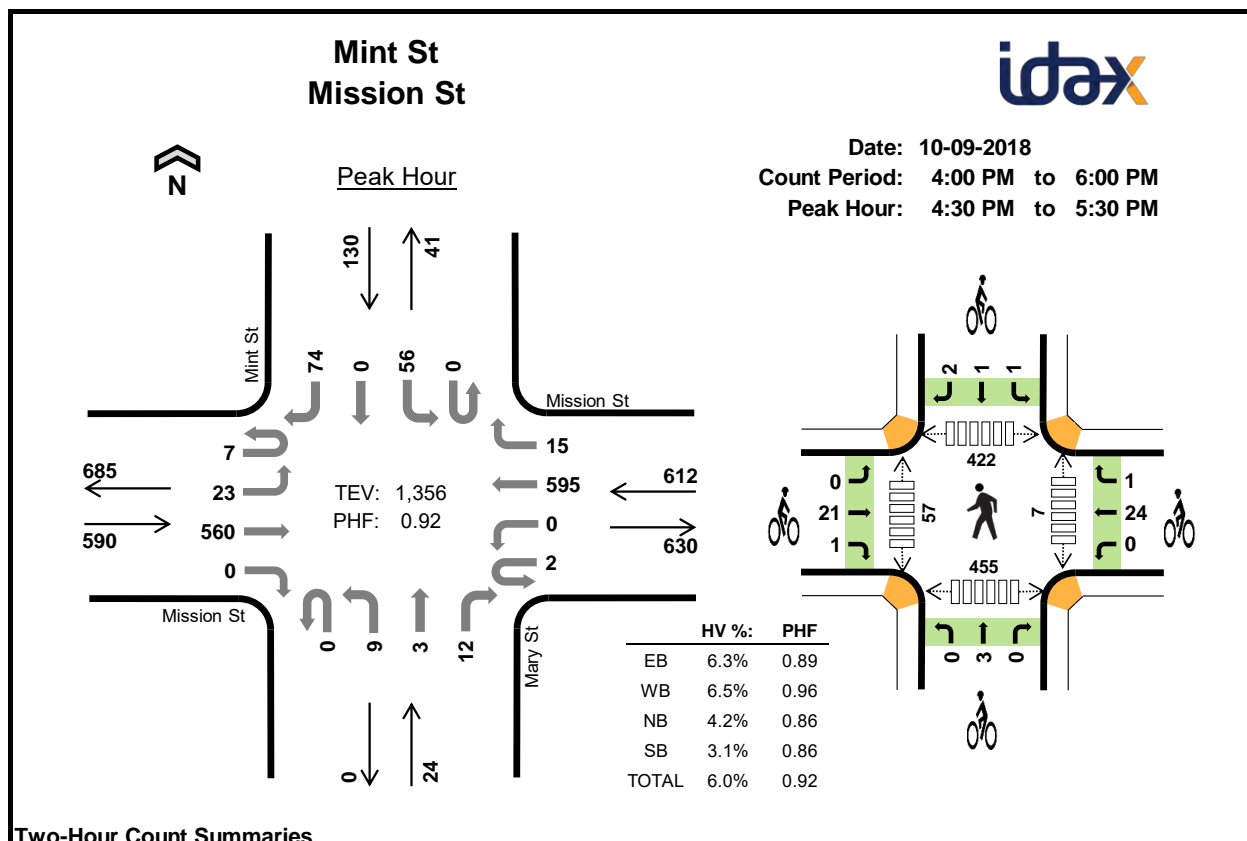
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	10	15	25	2	0	11	5	18	252	246	11	6	515
4:15 PM	1	0	6	21	28	0	0	10	13	23	259	211	7	8	485
4:30 PM	0	0	4	13	17	2	0	11	11	24	343	242	12	12	609
4:45 PM	1	0	5	9	15	1	0	23	7	31	363	240	4	7	614
5:00 PM	1	0	2	17	20	1	0	32	16	49	436	303	12	4	755
5:15 PM	0	0	4	14	18	0	0	27	9	36	397	306	9	11	723
5:30 PM	0	0	3	13	16	0	0	28	10	38	376	303	12	4	695
5:45 PM	0	0	7	17	24	7	0	27	9	43	400	281	12	14	707
Count Total	3	0	41	119	163	13	0	169	80	262	2,826	2,132	79	66	5,103
Peak Hr	1	0	16	61	78	8	0	114	44	166	1,609	1,193	45	33	2,880

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Stevenson St				0				5th St				5th St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	15	0	25	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	6	0	0	0	21	0	28	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	13	0	17	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	5	0	0	0	9	0	15	85
5:00 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	17	0	20	80
5:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	14	0	18	70
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	13	0	16	69
5:45 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	17	0	24	78
Count Total	0	0	0	3	0	0	0	0	0	0	41	0	0	0	119	0	163	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	16	0	0	0	61	0	78	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Stevenson St			0			5th St			5th St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	2	0	0	0	0	11	0	0	4	1	18	0				
4:15 PM	0	0	0	0	0	0	0	10	0	0	12	1	23	0				
4:30 PM	0	0	2	0	0	0	0	11	0	0	10	1	24	0				
4:45 PM	1	0	0	0	0	0	0	23	0	0	7	0	31	96				
5:00 PM	0	0	1	0	0	0	1	31	0	0	15	1	49	127				
5:15 PM	0	0	0	0	0	0	0	27	0	0	9	0	36	140				
5:30 PM	0	0	0	0	0	0	0	28	0	0	10	0	38	154				
5:45 PM	3	0	4	0	0	0	0	27	0	0	7	2	43	166				
Count Total	4	0	9	0	0	0	1	168	0	0	74	6	262	0				
Peak Hour	3	0	5	0	0	0	1	113	0	0	41	3	166	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Mission St				Mission St				Mary St				Mint St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		3	6	165	0	0	0	101	4	0	4	1	0	0	13	0	16	313	0
4:15 PM		2	12	135	0	1	0	116	2	0	1	0	5	0	12	0	18	304	0
4:30 PM		4	9	153	0	1	0	151	4	0	3	1	3	0	16	0	22	367	0
4:45 PM		0	5	145	0	0	0	141	1	0	2	0	2	0	13	0	24	333	1,317
5:00 PM		1	2	127	0	1	0	148	5	0	2	2	3	0	17	0	13	321	1,325
5:15 PM		2	7	135	0	0	0	155	5	0	2	0	4	0	10	0	15	335	1,356
5:30 PM		4	3	118	0	1	0	146	7	0	5	0	3	0	15	0	17	319	1,308
5:45 PM		1	6	145	0	0	0	160	3	0	6	1	7	0	10	0	16	355	1,330
Count Total		17	50	1,123	0	4	0	1,118	31	0	25	5	27	0	106	0	141	2,647	0
Peak Hour	All	7	23	560	0	2	0	595	15	0	9	3	12	0	56	0	74	1,356	0
	HV	0	0	37	0	0	0	40	0	0	0	0	1	0	2	0	2	82	0
	HV%	0%	0%	7%	-	0%	-	7%	0%	-	0%	0%	8%	-	4%	-	3%	6%	0

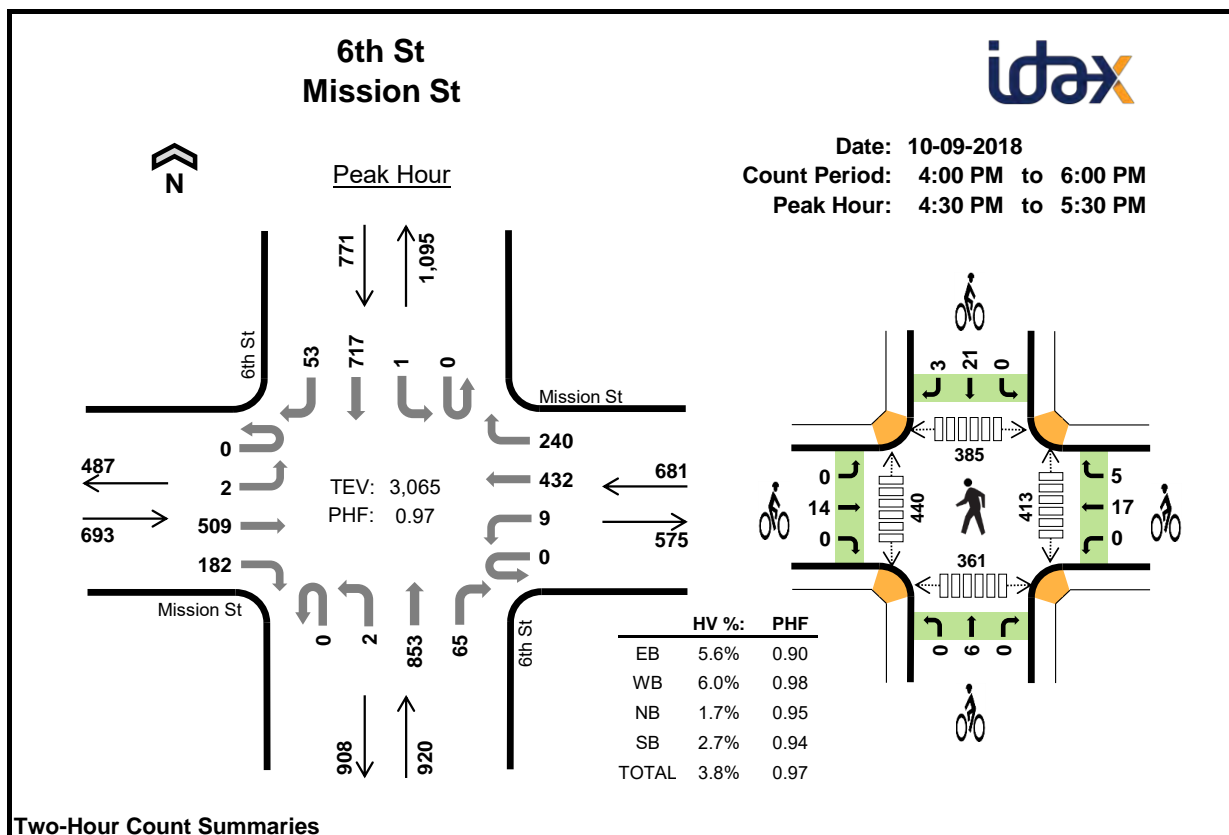
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	13	13	0	1	27	5	7	1	0	13	0	8	95	87	190
4:15 PM	11	9	0	1	21	1	7	0	2	10	0	10	120	63	193
4:30 PM	10	11	0	1	22	3	6	1	0	10	1	14	101	98	214
4:45 PM	10	10	0	1	21	4	6	1	1	12	1	12	90	105	208
5:00 PM	8	10	1	2	21	7	9	1	1	18	2	15	111	106	234
5:15 PM	9	9	0	0	18	8	4	0	2	14	3	16	120	146	285
5:30 PM	7	10	0	0	17	5	6	0	1	12	0	11	136	103	250
5:45 PM	5	9	0	0	14	6	11	0	3	20	0	9	129	93	231
Count Total	73	81	1	6	161	39	56	4	10	109	7	95	902	801	1,805
Peak Hour	37	40	1	4	82	22	25	3	4	54	7	57	422	455	941

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Mission St				Mission St				Mary St				Mint St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	13	0	0	0	12	1	0	0	0	0	0	0	0	0	1	27	0
4:15 PM	0	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	1	21	0
4:30 PM	0	0	10	0	0	0	11	0	0	0	0	0	0	0	0	0	1	22	0
4:45 PM	0	0	10	0	0	0	10	0	0	0	0	0	0	0	1	0	0	21	91
5:00 PM	0	0	8	0	0	0	10	0	0	0	0	0	1	0	1	0	1	21	85
5:15 PM	0	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	18	82
5:30 PM	0	0	7	0	0	0	10	0	0	0	0	0	0	0	0	0	0	17	77
5:45 PM	0	0	5	0	0	0	9	0	0	0	0	0	0	0	0	0	0	14	70
Count Total	0	0	73	0	0	0	80	1	0	0	0	1	0	2	0	4		161	0
Peak Hour	0	0	37	0	0	0	40	0	0	0	0	1	0	2	0	2		82	0

Two-Hour Count Summaries - Bikes														
Interval Start	Mission St			Mission St			Mary St			Mint St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	5	0	0	7	0	0	0	1	0	0	0	13	0
4:15 PM	0	1	0	0	7	0	0	0	0	0	2	0	10	0
4:30 PM	0	3	0	0	6	0	0	1	0	0	0	0	10	0
4:45 PM	0	3	1	0	5	1	0	1	0	1	0	0	12	45
5:00 PM	0	7	0	0	9	0	0	1	0	0	1	0	18	50
5:15 PM	0	8	0	0	4	0	0	0	0	0	0	2	14	54
5:30 PM	0	5	0	0	6	0	0	0	0	1	0	0	12	56
5:45 PM	0	6	0	0	10	1	0	0	0	1	0	2	20	64
Count Total	0	38	1	0	54	2	0	3	1	3	3	4	109	0
Peak Hour	0	21	1	0	24	1	0	3	0	1	1	2	54	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Mission St				Mission St				6th St				6th St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	1	144	44	0	3	84	35	0	0	196	19	0	1	184	10	721	0
4:15 PM		0	1	136	52	0	2	86	48	0	0	185	20	0	1	173	13	717	0
4:30 PM		0	0	137	55	0	2	111	50	0	0	212	17	0	1	189	13	787	0
4:45 PM		0	0	134	56	0	1	111	61	0	1	196	18	0	0	169	10	757	2,982
5:00 PM		0	1	111	38	0	3	110	59	0	0	220	13	0	0	191	13	759	3,020
5:15 PM		0	1	127	33	0	3	100	70	0	1	225	17	0	0	168	17	762	3,065
5:30 PM		0	2	110	56	0	4	113	56	0	0	225	9	0	0	178	7	760	3,038
5:45 PM		0	5	148	41	0	3	118	51	0	0	218	19	0	0	161	16	780	3,061
Count Total		0	11	1,047	375	0	21	833	430	0	2	1,677	132	0	3	1,413	99	6,043	0
Peak Hour	All	0	2	509	182	0	9	432	240	0	2	853	65	0	1	717	53	3,065	0
	HV	0	1	33	5	0	6	32	3	0	0	12	4	0	0	16	5	117	0
	HV%	-	50%	6%	3%	-	67%	7%	1%	-	0%	1%	6%	-	0%	2%	9%	4%	0

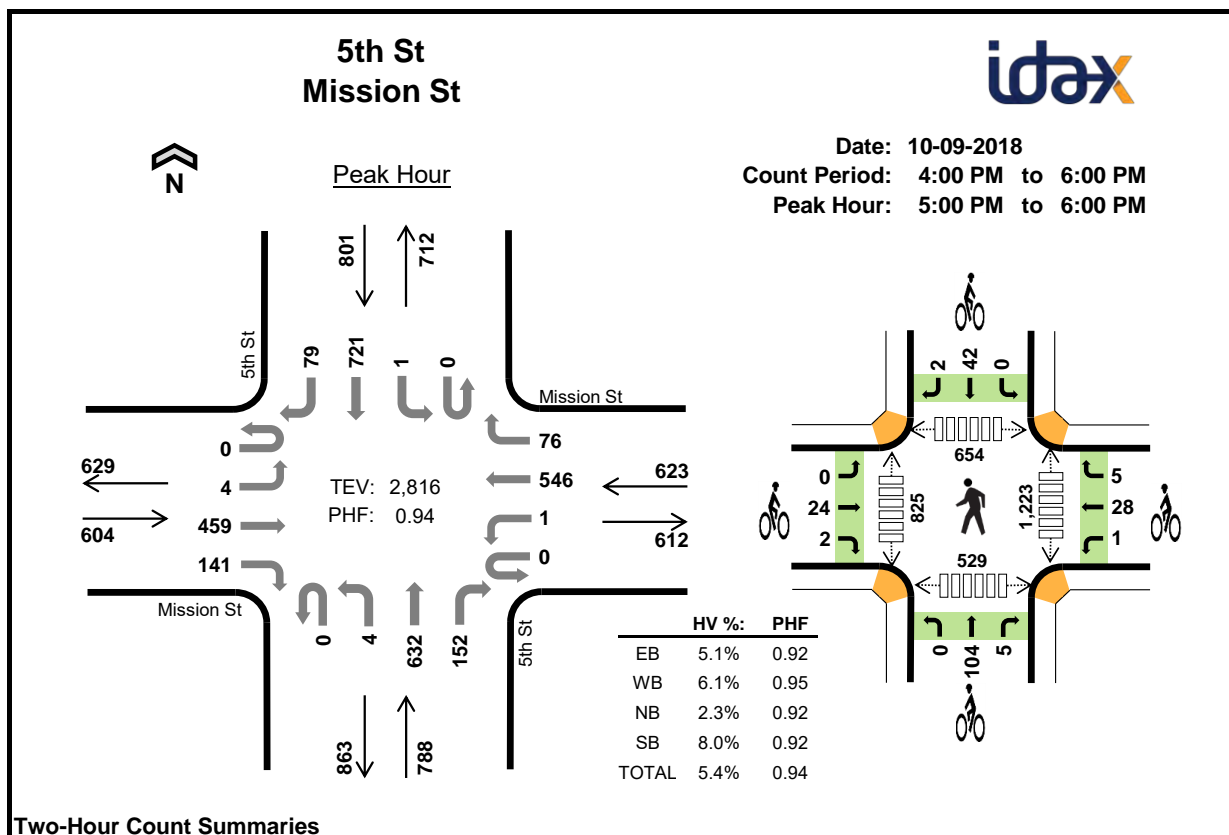
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	14	7	8	40	3	7	2	2	14	115	88	66	89	358
4:15 PM	11	9	2	6	28	1	7	4	6	18	116	99	83	84	382
4:30 PM	11	11	5	6	33	2	6	1	6	15	81	119	92	71	363
4:45 PM	10	9	6	6	31	2	5	1	5	13	100	111	82	91	384
5:00 PM	8	12	4	2	26	6	6	1	4	17	113	100	121	84	418
5:15 PM	10	9	1	7	27	4	5	3	9	21	119	110	90	115	434
5:30 PM	8	10	2	3	23	3	7	4	7	21	89	87	87	99	362
5:45 PM	8	10	2	3	23	4	9	4	7	24	83	103	95	73	354
Count Total	77	84	29	41	231	25	52	20	46	143	816	817	716	706	3,055
Peak Hour	39	41	16	21	117	14	22	6	24	66	413	440	385	361	1,599

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Mission St				Mission St				6th St				6th St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	11	0	0	3	10	1	0	0	5	2	0	0	7	1	40	0
4:15 PM	0	0	9	2	0	2	6	1	0	0	0	2	0	0	5	1	28	0
4:30 PM	0	0	9	2	0	1	10	0	0	0	4	1	0	0	5	1	33	0
4:45 PM	0	0	9	1	0	1	7	1	0	0	5	1	0	0	6	0	31	132
5:00 PM	0	0	7	1	0	3	8	1	0	0	3	1	0	0	0	2	26	118
5:15 PM	0	1	8	1	0	1	7	1	0	0	0	1	0	0	5	2	27	117
5:30 PM	0	0	6	2	0	3	7	0	0	0	1	1	0	0	3	0	23	107
5:45 PM	0	1	5	2	0	3	6	1	0	0	2	0	0	0	3	0	23	99
Count Total	0	2	64	11	0	17	61	6	0	0	20	9	0	0	34	7	231	0
Peak Hour	0	1	33	5	0	6	32	3	0	0	12	4	0	0	16	5	117	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Mission St			Mission St			6th St			6th St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	3	0	0	7	0	0	2	0	0	2	0	14	0				
4:15 PM	0	1	0	0	7	0	0	4	0	0	4	2	18	0				
4:30 PM	0	2	0	0	4	2	0	1	0	0	5	1	15	0				
4:45 PM	0	2	0	0	5	0	0	1	0	0	4	1	13	60				
5:00 PM	0	6	0	0	6	0	0	1	0	0	3	1	17	63				
5:15 PM	0	4	0	0	2	3	0	3	0	0	9	0	21	66				
5:30 PM	0	3	0	0	7	0	0	4	0	0	3	4	21	72				
5:45 PM	0	4	0	0	8	1	0	4	0	0	7	0	24	83				
Count Total	0	25	0	0	46	6	0	20	0	0	37	9	143	0				
Peak Hour	0	14	0	0	17	5	0	6	0	0	21	3	66	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Mission St				Mission St				5th St				5th St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	2	132	43	0	1	93	23	0	1	113	26	0	0	166	8	608	0
	4:15 PM	0	1	102	47	0	1	108	19	1	0	155	35	0	0	184	9	662	0
	4:30 PM	0	0	136	46	0	2	142	16	0	1	120	34	0	2	163	13	675	0
	4:45 PM	0	1	113	40	0	0	133	24	0	0	141	28	0	1	176	8	665	2,610
	5:00 PM	0	1	115	40	0	1	137	26	0	0	164	37	0	0	176	19	716	2,718
	5:15 PM	0	2	113	31	0	0	138	19	0	0	132	33	0	0	181	18	667	2,723
	5:30 PM	0	0	98	39	0	0	128	14	0	2	171	42	0	0	165	25	684	2,732
	5:45 PM	0	1	133	31	0	0	143	17	0	2	165	40	0	1	199	17	749	2,816
Count Total		0	8	942	317	0	5	1,022	158	1	6	1,161	275	0	4	1,410	117	5,426	0
Peak Hour	All	0	4	459	141	0	1	546	76	0	4	632	152	0	1	721	79	2,816	0
	HV	0	0	27	4	0	0	36	2	0	2	15	1	0	0	63	1	151	0
	HV%	-	0%	6%	3%	-	0%	7%	3%	-	50%	2%	1%	-	0%	9%	1%	5%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	13	13	7	15	48	5	8	9	4	26	203	149	142	90	584
4:15 PM	11	10	4	23	48	1	6	10	11	28	199	145	150	99	593
4:30 PM	10	10	4	13	37	2	7	10	9	28	226	183	144	109	662
4:45 PM	11	10	5	10	36	4	6	23	9	42	261	169	144	116	690
5:00 PM	10	10	2	20	42	7	11	30	13	61	328	210	151	114	803
5:15 PM	8	11	4	14	37	8	3	25	9	45	291	223	161	152	827
5:30 PM	9	9	4	11	33	5	8	27	12	52	307	208	170	141	826
5:45 PM	4	8	8	19	39	6	12	27	10	55	297	184	172	122	775
Count Total	76	81	38	125	320	38	61	161	77	337	2,112	1,471	1,234	943	5,760
Peak Hour	31	38	18	64	151	26	34	109	44	213	1,223	825	654	529	3,231

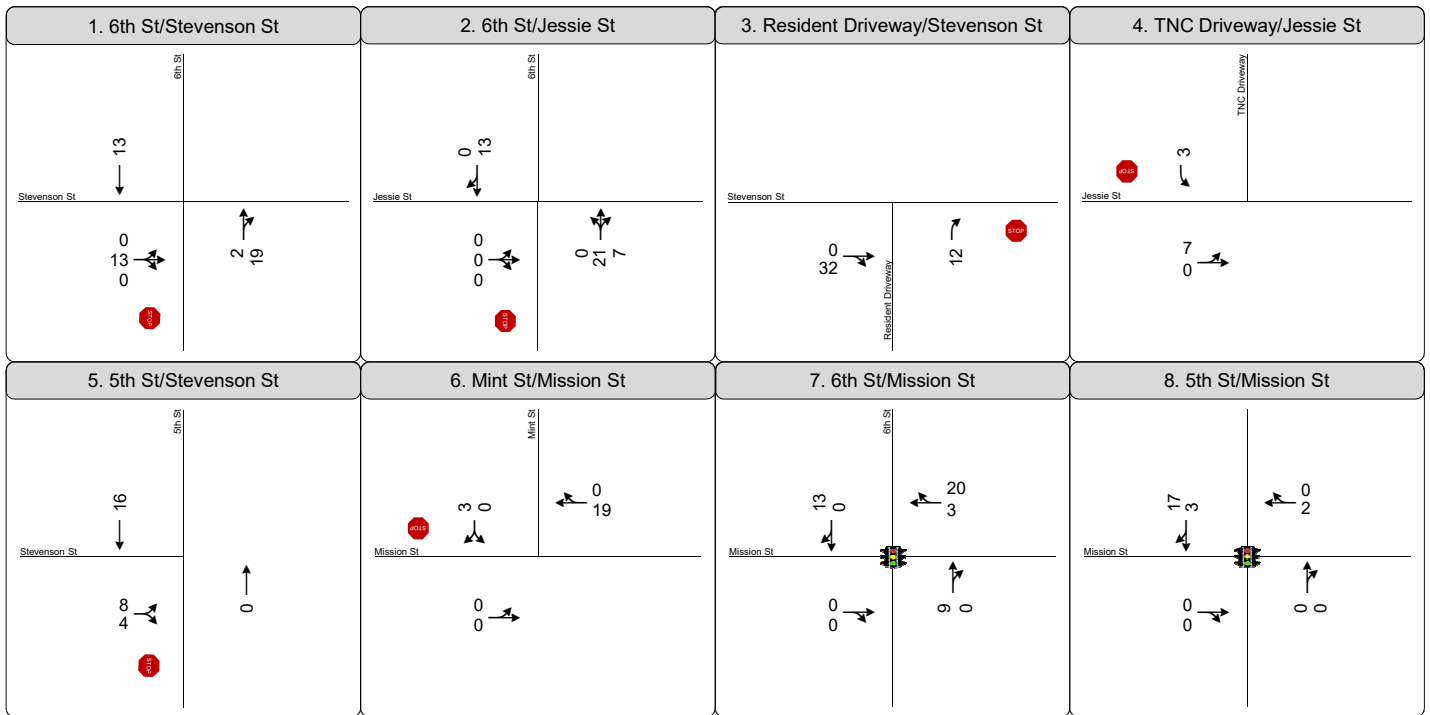
Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Mission St				Mission St				5th St				5th St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	13	0	0	0	11	2	0	0	7	0	0	0	14	1	48	0
4:15 PM	0	1	9	1	0	0	10	0	0	0	4	0	0	0	23	0	48	0
4:30 PM	0	0	8	2	0	0	10	0	0	0	4	0	0	0	12	1	37	0
4:45 PM	0	0	9	2	0	0	9	1	0	0	4	1	0	0	9	1	36	169
5:00 PM	0	0	9	1	0	0	9	1	0	0	2	0	0	0	19	1	42	163
5:15 PM	0	0	6	2	0	0	10	1	0	0	3	1	0	0	14	0	37	152
5:30 PM	0	0	8	1	0	0	9	0	0	1	3	0	0	0	11	0	33	148
5:45 PM	0	0	4	0	0	0	8	0	0	1	7	0	0	0	19	0	39	151
Count Total	0	1	66	9	0	0	76	5	0	2	34	2	0	0	121	4	320	0
Peak Hour	0	0	27	4	0	0	36	2	0	2	15	1	0	0	63	1	151	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Mission St			Mission St			5th St			5th St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	5	0	0	7	1	0	9	0	0	4	0	26	0				
4:15 PM	0	0	1	0	6	0	0	10	0	0	10	1	28	0				
4:30 PM	0	2	0	0	6	1	0	10	0	0	9	0	28	0				
4:45 PM	0	3	1	0	4	2	0	22	1	0	7	2	42	124				
5:00 PM	0	6	1	0	8	3	0	27	3	0	12	1	61	159				
5:15 PM	0	8	0	0	3	0	0	24	1	0	9	0	45	176				
5:30 PM	0	5	0	1	5	2	0	26	1	0	11	1	52	200				
5:45 PM	0	5	1	0	12	0	0	27	0	0	10	0	55	213				
Count Total	0	34	4	1	51	9	0	155	6	0	72	5	337	0				
Peak Hour	0	24	2	1	28	5	0	104	5	0	42	2	213	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix E.5-2

Project Trip Assignment



LEGEND

- # Study Intersection
- ↔ Permitted Movements
- stop Stop Sign
- 🚦 Signalized

Figure 1
469 Stevenson -
PM Peak Hour Trip Assignment



Appendix E.5-3

Freight and Passenger Loading Calculations

Use	GSF Quantity	GSF Quantity (Thousands)	Generation Rate (Thousands)	Truck Trip Generation (Daily)	Truck Trip Generation Rate (peak hour of loading)	Truck Trip Generation (peak hour of loading)	Truck Trip Generation Rate (Average generation per hour)	Truck Trip Generation (Average generation per hour)
Retail	4,000	4.00	0.2	0.9	0.0	0.05	0.0	0.04
Residential	460,500	460.50	0.0	13.8	0.0	0.80	0.0	0.64
TOTAL	464,500	465		14.7		0.85		0.68

Passenger Loading Calculations

x TIA ID	469 Stevenson		
x Name			
x Address			
x Land Use			
x Geography			
PM Peak Hour Person Trips	Retail	Residential	TOTAL
Passenger Loading % (placetype 1)	Place Type 1	Place Type 1	
	54	245	299
	5.50%	8.80%	
x Pax Loading Instances (person trips*loading %)	3.0	21.6	24.5
Pax Loading Duration (min)	1	1	1
x Delivery Spaces Required (PCEs) (loading instances*duration/60)	0.05	0.36	0.41
x Pax Loading Spaces Required (rounded up)	1	1	2

Appendix E.5-4

Garage Queuing Analysis

M/M/1 queuing analysis for Proposed Project

Arrival Rate 41 per hour
Total Capacity 240 per hour
Average Queue 0 cars

In	33	100%
Out		0%
Total	33	100%

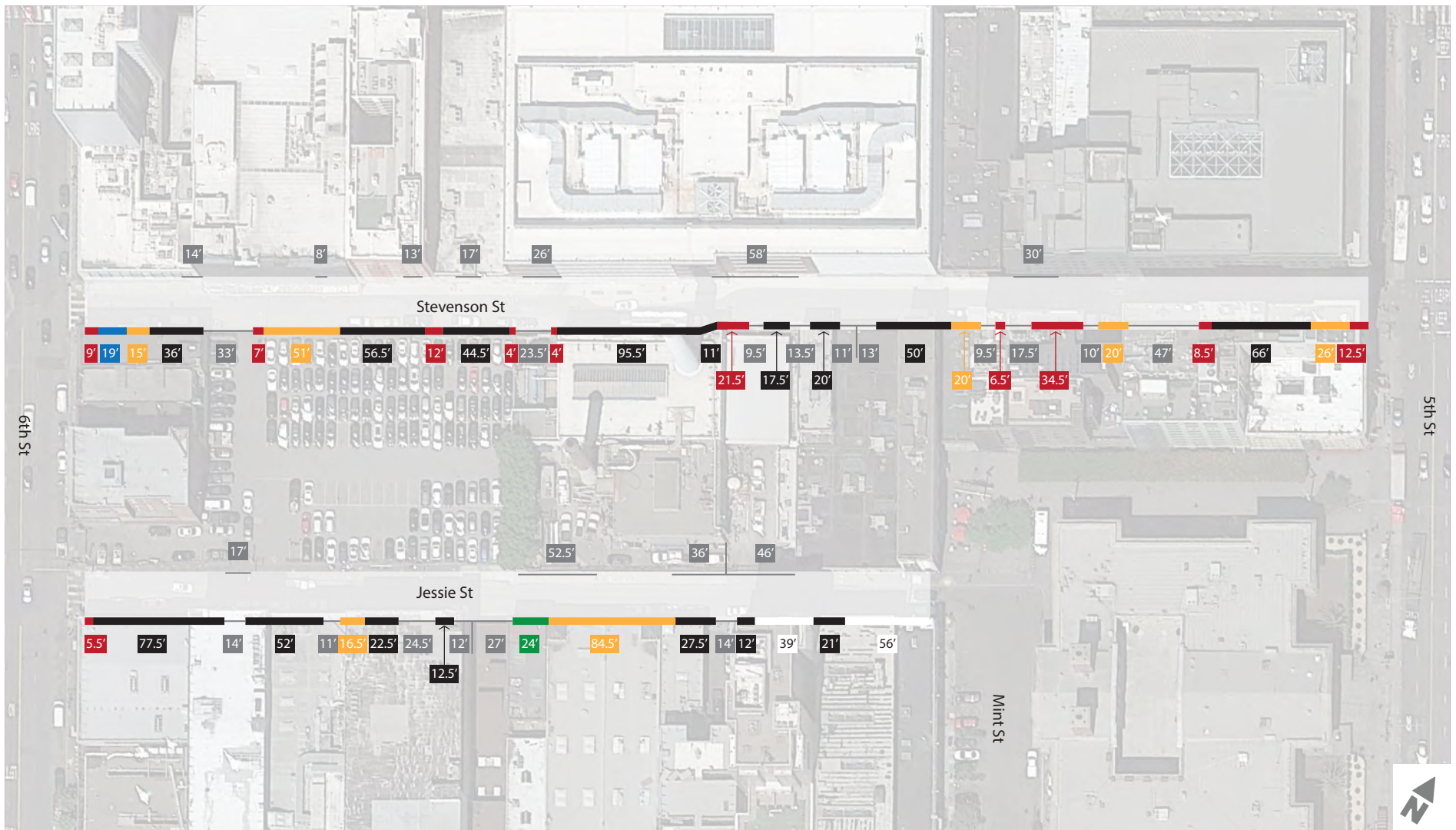
%inbound:
100%

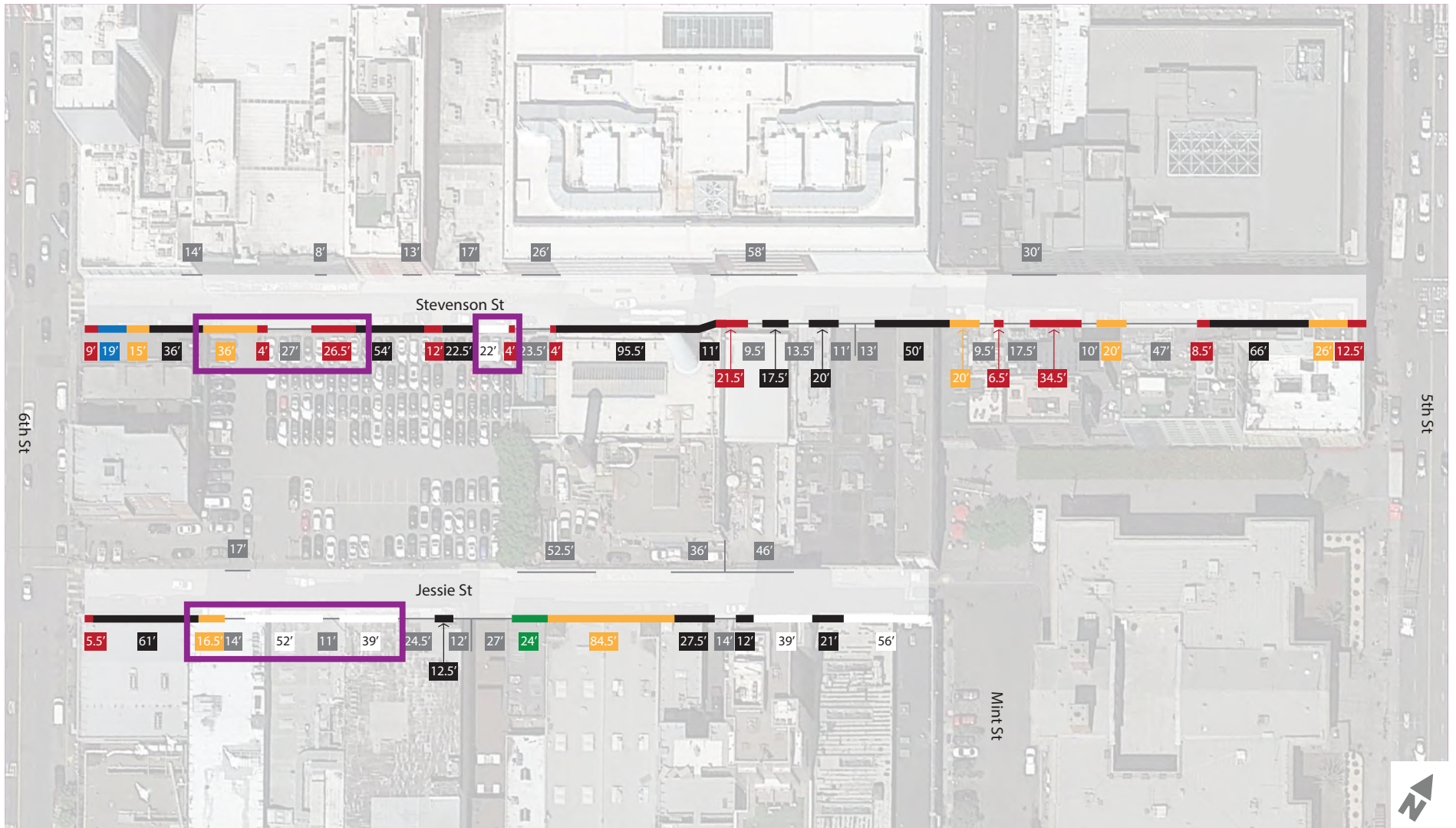
Queue*	Probability	Percentile	Minutes					# Vehicles queued INBOUND vehicles
0	83%	83%	49.8		0.829167	1		0.0
1	14%	97%	8.5		0.829167	0.170833333		1.0
2	2%	100%	1.5		0.829167	0.029184028		2.0
3	0%	100%	0.2		0.829167	0.004985605		3.0
4	0%	100%	0.0		0.829167	0.000851707		4.0
5	0%	100.00%	0.0		0.829167	0.0001455		5.0
6	0%	100%	0.0		0.829167	2.48563E-05		6.0
7	0%	100%	0.0		0.829167	4.24628E-06		7.0
8	0%	100%	0.0		0.829167	7.25406E-07		8.0
9	0%	100%	0.0		0.829167	1.23923E-07		9.0
10	0%	100%	0.0		0.829167	2.11703E-08		10.0
11	0%	100%	0.0		0.829167	3.61659E-09		11.0
12	0%	100%	0.0		0.829167	6.17833E-10		12.0
13	0%	100%	0.0		0.829167	1.05547E-10		13.0
14	0%	100%	0.0		0.829167	1.80309E-11		14.0
15	0%	100%	0.0		0.829167	3.08027E-12		15.0
16	0%	100%	0.0		0.829167	5.26213E-13		16.0
17	0%	100%	0.0		0.829167	8.98948E-14		17.0
18	0%	100%	0.0		0.829167	1.5357E-14		18.0
19	0%	100%	0.0		0.829167	2.62349E-15		19.0
20	0%	100%	0.0		0.829167	4.4818E-16		20.0
21	0%	100%	0.0		0.829167	7.65641E-17		21.0
22	0%	100%	0.0		0.829167	1.30797E-17		22.0
Total	100%		60					

*Number of cars in queue.

Appendix E.5-5

Existing and Proposed Curb Designations





- | | | | |
|----------------|---|------------------------------|----------------------|
| Street Parking | Passenger Loading/Unloading | Commercial Loading/Unloading | Project Curb Changes |
| No Parking | Short-Term Parking
10 minute parking, Mon-Fri, 9am - 6pm | ADA Parking | |
| | | Driveway | |



469 Stevenson Proposed Project Curb Designations

Appendix E.5-6

Volume Summary

Int #	Int Name	Movement	2018 Existing	Project Trips	Existing Plus Project	Baseline	Baseline Plus Project	Cumulative No Project	Cumulative Plus Project
1	6th/Stevenson	NBL	4	0	4	4	4	0	0
		NBT	1051	2	1053	1058	1060	940	942
		NBR	31	19	50	31	50	20	39
		SBL	17	0	17	17	17	60	60
		SBT	732	13	745	732	745	540	553
		SBR	1	0	1	1	1	0	0
		EBL	8	0	8	8	8	30	30
		EBT	9	13	22	9	22	30	43
		EBR	43	0	43	43	43	60	60
		WBL	0	0	0	0	0	0	0
2	6th/Jessie	NBL	6	0	6	6	6	0	0
		NBT	1105	21	1126	1112	1133	970	991
		NBR	32	7	39	32	39	30	37
		SBL	29	0	29	29	29	20	20
		SBT	751	13	764	751	764	540	553
		SBR	2	0	2	2	2	0	0
		EBL	2	0	2	2	2	20	20
		EBT	0	0	0	0	0	30	30
		EBR	1	0	1	1	1	20	20
		WBL	0	0	0	0	0	0	0
3	Stevenson/Driveway	NBL	1	0	1	1	1	0	0
		NBT	0	0	0	0	0	0	0
		NBR	11	12	12	11	23	20	12
		SBL	0	0	0	0	0	0	0
		SBT	0	0	0	0	0	0	0
		SBR	0	0	0	0	0	0	0
		EBL	0	0	0	0	0	0	0
		EBT	64	0	64	64	64	90	90
		EBR	3	32	32	3	35	20	32
		WBL	0	0	0	0	0	0	0
4	Jessie/Driveway	NBL	0	0	0	0	0	0	0
		NBT	0	0	0	0	0	0	0
		NBR	0	0	0	0	0	0	0
		SBL	21	3	3	21	24	30	3
		SBT	0	0	0	0	0	0	0
		SBR	0	0	0	0	0	0	0
		EBL	7	7	7	7	14	10	7
		EBT	66	0	66	66	66	80	80
		EBR	0	0	0	0	0	0	0
		WBL	0	0	0	0	0	0	0
5	5th/Stevenson	NBL	3	0	3	3	3	0	0
		NBT	694	0	694	694	694	1180	1180
		NBR	0	0	0	0	0	0	0
		SBL	0	0	0	0	0	0	0
		SBT	692	16	708	696	712	1220	1236
		SBR	1	0	1	1	1	0	0
		EBL	15	8	23	15	23	20	28
		EBT	0	0	0	0	0	0	0
		EBR	83	4	87	83	87	100	104
		WBL	0	0	0	0	0	0	0
		WBT	0	0	0	0	0	0	0
		WBR	0	0	0	0	0	0	0

6	Mission/Mint	NBL	9	0	9	9	9	10	10
		NBT	3	0	3	3	3	10	10
		NBR	12	0	12	12	12	20	20
		SBL	56	0	56	56	56	70	70
		SBT	0	0	0	0	0	0	0
		SBR	74	3	77	74	77	90	93
		EBL	30	0	30	30	30	40	40
		EBT	560	0	560	635	635	920	920
		EBR	0	0	0	0	0	0	0
		WBL	2	0	2	2	2	0	0
7	6th/Mission	WBT	595	19	614	595	614	710	729
		WBR	15	0	15	15	15	20	20
		NBL	2	0	2	2	2	0	0
		NBT	853	9	862	860	869	860	869
		NBR	65	0	65	125	125	140	140
		SBL	1	0	1	1	1	0	0
		SBT	717	0	717	717	717	430	430
		SBR	53	13	66	53	66	50	63
		EBL	2	0	2	2	2	0	0
		EBT	509	0	509	524	524	780	780
8	5th/Mission	EBR	182	0	182	184	184	160	160
		WBL	9	0	9	9	9	0	0
		WBT	432	3	435	432	435	700	703
		WBR	240	20	260	240	260	130	150
		NBL	4	0	4	4	4	0	0
		NBT	632	0	632	632	632	1050	1050
		NBR	152	0	152	152	152	250	250
		SBL	1	0	1	1	1	0	0
		SBT	721	3	724	725	728	1280	1283
		SBR	79	17	96	79	96	90	107
9	6th/Market	EBL	4	0	4	4	4	0	0
		EBT	459	0	459	485	485	610	610
		EBR	141	0	141	190	190	390	390
		WBL	1	0	1	1	1	0	0
		WBT	546	2	548	546	548	620	622
		WBR	76	0	76	76	76	130	130
		NBL	0	0	0	0	0	0	0
		NBT	976	2	978	983	985	1020	1022
		NBR	130	0	130	130	130	0	0
		SBL	132	0	132	132	132	210	210
10	5th/Market	SBT	997	13	1010	997	1010	490	503
		SBR	8	0	8	8	8	60	60
		EBL	0	0	0	0	0	0	0
		EBT	170	0	170	170	170	0	0
		EBR	113	0	113	113	113	140	140
		WBL	0	0	0	0	0	0	0
		WBT	148	0	148	148	148	190	190
		WBR	0	0	0	0	0	0	0
		NBL	2	0	2	2	2	0	0
		NBT	559	8	567	559	567	1150	1158
10	5th/Market	NBR	149	0	149	149	149	0	0
		SBL	0	0	0	0	0	0	0
		SBT	695	16	711	699	715	1050	1066
		SBR	23	0	23	23	23	0	0
		EBL	0	0	0	0	0	0	0
		EBT	208	0	208	208	208	40	40
		EBR	83	0	83	83	83	170	170
		WBL	2	0	2	2	2	0	0
		WBT	277	0	277	277	277	60	60
		WBR	51	0	51	51	51	20	20

APPENDIX C: ENERGY CONSUMPTION CALCULATIONS

OFFROAD EQUIPMENT LIST

Phase	Equipment	Quantity	Horsepower	Load Factor	Hours per day	Total Working Days	Total Hours		LPMH	GPH	Total Fuel (gals)
Site Preparation/Demolition	Dump Truck	2	402	0.38	8	20	160		30.92	8.17	2,613
	Excavator	1	158	0.38	8	20	160		12.15	3.21	514
Excavation Shoring	Bore/Drill Rigs	1	221	0.5	8	45	360		22.36	5.91	2,127
	Dumper/Tenders	1	16	0.38	8	45	360		1.23	0.33	117
	Excavator	1	158	0.38	8	45	360		12.15	3.21	1,156
	Skid Steer Loaders	1	65	0.37	8	45	360		4.87	1.29	463
	Tractors/Loaders/Backhoes	1	97	0.37	8	45	360		7.26	1.92	691
	Aerial Lift	1	63	0.31	8	45	360		3.95	1.04	376
	Dump Truck	2	402	0.38	8	45	360		30.92	8.17	5,880
Foundation/Below Grade Construction	Concrete Pump	1	84	0.74	8	45	360	Electric			
	Manlift	1	63	0.31	8	45	360		3.95	1.04	376
	Dump Truck	1	402	0.38	8	45	360		30.92	8.17	2,940
Building Construction	Aerial Lift	1	63	0.31	8	653	5,224		3.95	1.04	5,455
	Cranes	1	231	0.29	7	653	4,571		13.56	3.58	16,371
	Forklift	1	89	0.2	8	653	5,224		3.60	0.95	4,971
	Rough Terrain Forklifts	1	100	0.4	8	653	5,224		8.10	2.14	11,172
	Electric Powered Welders	1			8	653	5,224	Electric			
	Concrete/Industrial Saws	2	81	0.73	8	653	5,224		11.97	3.16	33,029
	Dump Truck	1	402	0.38	8	653	5,224		30.92	8.17	42,665
	Manlift	2	63	0.31	8	653	5,224		3.95	1.04	10,909
	Scissor Lift	3	63	0.31	8	653	5,224		3.95	1.04	16,364
	Welder	1	46	0.45	8	653	5,224		4.19	1.11	5,781
Exterior Finishing	Air Compressors	1	78	0.48	6	306	1,836		7.58	2.00	3,675
	Forklift	1	89	0.2	8	306	2,448		3.60	0.95	2,330
	Manlift	1	63	0.31	8	306	2,448		3.95	1.04	2,556
	Welders	1	46	0.45	8	306	2,448		4.19	1.11	2,709
Sitework/Paving	Cement and Mortar Mixers	1	9	0.56	8	88	704		1.02	0.27	190
	Pavers	1	130	0.42	8	88	704		11.05	2.92	2,055
	Paving Equipment	1	132	0.36	8	88	704		9.62	2.54	1,789
	Pressure Washer	1	13	0.3	8	88	704		0.79	0.21	147

Total Diesel Consumption

179,419

Formula:

$LPMH = (K \times HP \times LF) \div KPL$

Constants:

Desc	Symbol	Quantity	Units
fuel consumption		K =	0.17 kg/brake hp-hour
weight		KPL =	0.84 kg/liter
		1 Liter =	0.264172 gallons

Notes:
CalEEMod Off-Highway Trucks used for Dump Trucks
Aerial Lift horsepower, load factor and hours of use per day used for Manlifts and Scissor Lifts - Please confirm equipment is equivalent

ONROAD EQUIPMENT LIST

Phase	Category	Vehicle Type	Quantity	Start Date	End Date	Total Working Days	Trip Length	Total trips per Day	Total Trips per Phase	Mileage per Day	Total Mileage per Phase	Fuel Economy	Total Fuel Consumption
Site Preparation/Demolition	Worker	Light-Duty/Passenger Vehicles	6	11/2/2020	11/27/2020	20	10.8	12		130	2,592	6.1	425
	Trucks	Heavy-Duty Diesel	50	11/2/2020	11/27/2020	20	40	50	1000	2,000	40,000	26.2	1,527
Excavation Shoring	Worker	Light-Duty/Passenger Vehicles	20	11/30/2020	1/29/2021	45	10.8	40		432	19,440	6.1	3,187
	Trucks	Heavy-Duty Diesel	70	11/30/2020	1/29/2021	45	40	70	3150	2,800	126,000	26.2	4,809
Foundation/Below Grade Construction	Worker	Light-Duty/Passenger Vehicles	20	2/1/2021	4/1/2021	45	10.8	40		432	19,440	6.1	3,187
	Trucks	Heavy-Duty Diesel	8	2/1/2021	4/1/2021	45	40	8	360	320	14,400	26.2	550
Building Construction	Worker	Light-Duty/Passenger Vehicles	20	4/5/2021	10/4/2023	653	10.8	40		432	282,096	6.1	46,245
	Trucks	Heavy-Duty Diesel	7	4/5/2021	10/4/2023	653	40	7	4571	280	182,840	26.2	6,979
Exterior Finishing	Worker	Light-Duty/Passenger Vehicles	10	7/1/2022	9/1/2023	306	10.8	20		216	66,096	6.1	10,835
	Trucks	Heavy-Duty Diesel	1	7/1/2022	9/1/2023	306	40	1	306	40	12,240	26.2	467
Sitework/Paving	Worker	Light-Duty/Passenger Vehicles	10	7/1/2023	11/1/2023	88	10.8	20		216	19,008	6.1	3,116
	Trucks	Heavy-Duty Diesel	1	7/1/2023	11/1/2023	88	40	1	88	40	3,520	26.2	134
Total Diesel Consumption		14,466											
Total Gas Consumption		66,995											

Assumed CalEEMod default trip length for construction worker trips
Assumed 40 miles for hauling (2x the CalEEMod default due to uncertainty of trip destination/origin)

Land Use	Size	Unit	Auto Trip Rate/unit	Total Trips per Day	Daily Vehicle Mileage	Days per Year	Annual VMT	Average Fuel Economy (miles/gallon)	Total Annual Fuel Consumption (gallons)
Retail		3.7 ksf	14.6	54	1.49	365	29,320.36	34.2	857
Residential		467 du	1.24	578	3.57	365	754,548.25	34.2	22,063
							783,869		22,920

Truck Trips							Total Annual Fuel Consumption (gallons)
Land Use	Truck Trip Rate/Day	Daily Vehicle Mileage	Days per Year	Annual VMT	Average Fuel Economy (miles/gallon)		
Retail		0.8					
Residential		13.67					
Total		14.47	20	365	105631	6.1	17,317

Daily Vehile Mileage Calculations (SF TIM)

Existing TAZ VMT Per Capita (Residential):	1.9	
Existing TAZ VMT per retail employee (Retail):	7.3	3.56373057

New Residents:	1086
New Employees	11

Residential Vehicle Trips	578
Retail Vehicle Trips	54

EnergyUseLandUseSubType	Size	Title 24 Electricity Energy Intensity (KWhr/size/year)	Nontitle 24 Electricity Energy Intensity (KWhr/size/year)	Lighting Energy Intensity (KWhr/size/year)	Total Electricity Energy Demand (KWhr/size/year)	Total Electricity Demand (KWhr/year)		Title 24 Natural Gas Energy Intensity (KBTU/size/year)	Nontitle 24 Natural Gas Energy Intensity (KBTU/size/year)	Total Natural Gas Energy Demand (KBTU/size/year)	Total Natural Gas Demand (KBTU/year)
Apartment High Rise	467	426.45	3054.1	741.44	4221.99	1,971,669		6115.43	2615	8730.43	4,077,111
Enclosed Parking with Elevator	234	3.92	0.19	1.75	5.86	1,371		0	0	0	0
Strip Mall	4000	2.24	3.36	4.88	10.48	44,016		3.9	0.7	4.6	19,320
car stacker					140	51100					
						2,068,157					4,096,431

Note: The energy calculations included herein reference a trip generation more conservative by 4 total vehicle trips. As such, the energy use presented herein is more conservative.