

DEIR

DRAFT ENVIRONMENTAL IMPACT REPORT

5M Project

PLANNING DEPARTMENT
CASE NO. 2011.0409E

STATE CLEARINGHOUSE NO. 2013011055



SAN FRANCISCO
PLANNING
DEPARTMENT

Draft EIR Publication Date:	OCTOBER 15, 2014
Draft EIR Public Hearing Date:	NOVEMBER 20, 2014
Draft EIR Public Comment Period:	OCTOBER 15, 2014 - DECEMBER 1, 2014

Written comments should be sent to:

Sarah Jones, Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103
or sarah.b.jones@sfgov.org



SAN FRANCISCO PLANNING DEPARTMENT

PUBLIC NOTICE

Availability of Draft Environmental Impact Report for the 5M Project, 925-967 Mission Street Planning Department Case No. 2011.0409E State Clearinghouse No. 2013011055

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A draft environmental impact report (EIR) has been prepared by the San Francisco Planning Department in connection with this project. The report is available for public review and comment on the Planning Department's web page (<http://www.sf-planning.org/sfceqadocs>). CDs and paper copies are also available at the Planning Information Center (PIC) counter on the first floor of 1660 Mission Street, San Francisco. Referenced materials are available for review by appointment at the Planning Department's office on the fourth floor of 1650 Mission Street. (Call (415) 575-9033)

Project Description: The proposed project entails the development of office, retail, residential, cultural, educational, and open space uses in the southwest quadrant of Fifth and Mission Streets in Downtown San Francisco.

The project would result in the retention and renovation/rehabilitation of two buildings (the Chronicle Building at 901-933 Mission Street, constructed in 1924, and the Dempster Printing Building at 447-449 Minna Street, constructed in 1907), the demolition of six existing buildings (910 Howard Street, 912 Howard Street, 924-926 Howard Street, and 190 Fifth Street, 110 Fifth Street, and 430 Natoma Street) plus a two-story connector between 901 Mission and 110 Fifth Streets, and the construction of four new buildings (plus a connector between two buildings) on the site. Buildings would range in height from approximately 50 feet to 470 feet (including non-occupiable architectural features). Two project options (with substantially the same overall gross square footage but with varying compositions of residential and office uses) are considered in the EIR; these are referred to as the "Office Scheme" and "Residential Scheme."

Under the Office Scheme, the completed project would include a total of 1,827,000 gsf of renovated existing buildings and new construction, comprising up to 871,900 gsf of office uses (554,200 gsf of net new office space); 802,500 gsf of residential uses (914 dwelling units); and 152,600 gsf of active ground floor uses. Up to 663 vehicle parking spaces would be provided in garages across three subterranean levels. About 44,600 square feet of shared open space (including 34,450 square feet of privately-owned publicly-accessible open space) would be provided throughout the site.

Under the Residential Scheme, the completed project would include a total of 1,808,800 gsf of renovated existing buildings and new construction, comprising up to 598,500 gsf of office uses (280,800 gsf of net new office space); 1,057,700 gsf of residential uses (approximately 1,209 dwelling units); and 152,600 gsf of active ground floor uses. Up to 756 vehicle parking spaces would be provided in three subterranean levels. About 59,100 square feet of shared open space

(including 34,450 square feet of privately-owned publicly-accessible open space) would be provided throughout the site.

The project would also result in changes to the site's existing vehicular and pedestrian circulation patterns, primarily to Mary Street. The project also proposes changes to existing development controls for the site (including increases in permitted height and bulk) through General Plan, Planning Code, and Zoning Map text amendments, including a Special Use District (SUD), together with detailed design standards and guidelines for implementation of the project established through a Design for Development (D4D) document.

The Draft EIR found that implementation of the proposed project would result in significant unavoidable impacts related to cultural and paleontological resources; transportation and circulation; and air quality. The project site also contains hazardous materials as defined under Section 65962.5 of the Government Code, which would be remediated in accordance with State law.

A **public hearing** on this draft EIR and other matters has been scheduled by the City Planning Commission for November 20, 2014, in Room 400, City Hall, 1 Dr. Carlton B. Goodlett Place, beginning at 12:00 p.m. or later. (Call (415) 558-6422 the week of the hearing for a recorded message giving a more specific time.)

Public comments will be accepted from October 15, 2014 to 5:00 p.m. on December 1, 2014. Written comments should be addressed to Sarah B. Jones, Environmental Review Officer, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103. Comments received at the public hearing and in writing will be responded to in a draft EIR comments and responses document.

If you have any questions about the **environmental review** of the proposed project, please call Michael Jacinto at (415) 575-9033.

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GLOSSARY

A	Inhalation breathing factor
AB 939	Assembly Bill 939, California Integrated Waste Management Act of 1989
ABAG	Association of Bay Area Governments
Active Ground Floor Uses	A flexible mix of permitted arts, cultural, educational, retail, and office uses on the lower floors of project buildings intended to activate the ground floor and accommodate emerging types of nontraditional building uses consistent with an active ground floor, to be more specifically defined in the proposed Fifth/Mission Special Use District.
AERMOD	Model used in preparation of Health Risk Assessments
ARB	California Air Resources Board
ARDTP	Archaeological Research Design and Treatment Plan
AST	Anthropological Studies Center (ASC)
AST	above-ground storage tank
AT	Average time over which exposure to an air pollutant is measured
ATP	Archaeological Testing Plan
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
bgs	Below the ground surface
BLIP	Branch Library Improvement Program
BMP	Best Management Practices
Breast height	4.5 feet above the ground surface surrounding the tree
C-3	Downtown Commercial Districts

C-3-0	Downtown Office District
C-3-S	Downtown Support District
C _{air}	Concentration of particulate matter in air
CalEEMod	California Emission Estimator Model
California Register	California Register of Historical Resources
California ISO	California Independent System Operator
Cal-OSHA	State of California Occupational Safety and Health Administration
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CDMG	California Division of Mines and Geology
CH ₄	methane
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
COG	Councils of Government
Corps	U.S. Army Corps of Engineers
CRAF	Cancer risk adjustment factor

D4D	Design for Development
dB	decibel
dBA	A-weighted decibel
DBI	San Francisco Department of Building Inspection
DBR	Adult daily breathing rate
DDA	Development and Disposition Agreement
Differential Compaction	A phenomenon in which non-saturated, cohesionless soil is made more dense by earthquake vibrations, causing differential settlement.
Downtown	As used in this document, the area defined by the San Francisco Downtown Area Plan. The Plan area is irregularly shaped, but is generally bounded by Washington Street on the northeast; The Embarcadero on the east; Folsom Street on the south; and Market Street on the northwest.
DPH	San Francisco Department of Public Health
DPM	Diesel particulate matter
DPW	San Francisco Department of Public Works
East SoMa	As used in this document, the area defined by the East SoMa (South of Market) Area Plan. The Plan area is irregularly shaped and is generally bounded by Mission Street and Folsom Street on the north; The Embarcadero on the east; Townsend Street, Harrison Street, and Mission Creek Channel on the south; and Seventh Street and Fourth Street on the west.
ED	Exposure duration
EEA	Environmental Evaluation Application
EF	Exposure frequency
EIR	Environmental Impact Report
EMS	Emergency Medical Services
EMT	Emergency Medical Technician

EP	San Francisco Planning Department, Environmental Planning Division
ESA	Environmental Site Assessment, a professional investigation that characterizes existing conditions related to hazardous materials and hazardous waste contamination at a site.
ESL	Environmental Screening Levels
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FTE	Full-time-equivalent employees; refers to the number of employees working the equivalent of 40-hour work weeks.
GHG	greenhouse gases, the gases primarily responsible for global climate change
gpm	gallons per minute
gsf	Gross square feet of floor area, calculated pursuant to Planning Code Section 102.9. Gsf for all proposed buildings includes gross building areas above existing street grades, and excludes basement accessory parking areas and mechanical penthouses as defined by Planning Code Sections 102.9(b)(1) and (b)(9), and other parking areas. Gsf is calculated to include external building walls, and no deductions are made to gsf for internal elevator or service cores. All gsf numbers in this document are approximate.
GWh	gigawatt hours
HABS	Historic American Building Survey
HCD	California Department of Housing and Community Development
HDMT	Healthy Development Measurement Tool
HRA	Health Risk Assessment
HRE	Historical Resource Evaluation Report
HVAC	Heating, ventilation, and air conditioning
IWMP	Integrated Waste Management Plan

JOA	Joint Operating Agreement
Lateral spreading	The phenomenon in which surface soil is displaced along a zone that has formed within an underlying liquefied layer.
L _{dn}	day-night average noise level
LEED	Leadership in Energy and Environmental Design
L _{eq}	Continuous equivalent noise level
LID	Low Impact Design, a stormwater management approach that promotes the use of ecological and landscape-based systems that mimic pre-development drainage patterns and hydrologic processes by increasing retention, detention, infiltration, and treatment of stormwater at its source.
Liquefaction	The transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, which may occur during earthquakes.
L _{max}	maximum instantaneous noise level
L _{min}	Minimum instantaneous noise level
LOS	level of service
LUST	leaking underground storage tank
MEI	Maximum Exposed Individual
mgd	million gallons per day
MMTCO ₂ E	million metric tons of CO ₂ E
mpg	miles per gallon
mph	miles per hour
MPL	Multiple Property Listing
MPO	Metropolitan Planning Organization
MRZ-4	Mineral Resource Zone 4

MTA	San Francisco Metropolitan Transportation Agency
MTC	Metropolitan Transportation Commission
MUNI	San Francisco Municipal Railway
MUR	Mixed Use Residential Use District
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NC-T	Neighborhood Commercial Transit Use District
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NO ₂	nitrogen dioxide
NOA	Notice of Availability
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPRA	National Parks and Recreation Association
NWIC	Northwest Information Center, Sonoma State University
O ₃	ozone
OAHP	Office-Affordable Housing Production Program
OEHHA	California Office of Environmental Health and Hazard Assessment
OPR	State of California Governor's Office of Planning and Research
Passive recreation	Also called "low intensity recreation;" emphasizes the open-space aspect of a park and allows for minimum alteration to the park's environment, and usually involves a low level of development, such as landscaping, benches and trails.
P	Public Use District

Pb	lead
PCB	Polychlorinated biphenyl, a class of organic compounds considered toxic
PG&E	Pacific Gas and Electric Company
PM	particulate matter
ppb	Parts per billion
pphm	Parts per hundred million
pphm	Parts per hundred million
ppm	Parts per million
ppv	Peak particle velocity
PRC	State of California Public Resources Code
PV	Photovoltaic
RED	Residential Enclave Use District
REL	Referenced exposure level
RHNA	Regional Housing Needs Allocation
rms	Root mean square
ROG	Reactive organic gases
RPD	San Francisco Recreation and Parks Department
RSD	Residential Services District
SB	California Senate Bill
SF Datum	Establishes the City's zero point for surveying purposes at approximately 8.6 feet above the zero elevation for the National Geodetic Vertical Datum of 1929, which was based on the sea level datum in 1929. Since 1929, the mean sea level has increased by approximately 0.44 feet.
SFBAAB	San Francisco Bay Area Air Basin

SFFD	San Francisco Fire Department
SFPD	San Francisco Police Department
SFHA	Special Flood Hazard Area
SFPL	San Francisco Public Library
SFPUC	San Francisco Public Utilities Commission
SFSDF	San Francisco School of Digital Filmmaking
SFUSD	San Francisco Unified School District
Shared public ways	Streets “designed along a single plane (i.e., typically the sidewalk-level grade) that share space among pedestrians, bicycles, and vehicles
SO ₂	sulfur dioxide
SOCAP	Social Capital Markets
SoMa	South of Market Area; as used in this document, the SoMa is irregularly shaped and is generally bounded by Mission, Stevenson, and Natoma Streets on the north; Essex Street on the east; Townsend and Bryant Streets on the south, and 13 th Street on the west.
SRO	single room occupancy
SSMP	Sewer System Master Plan
SUD	Special Use District
TPH	total petroleum hydrocarbons
TPHd	total petroleum hydrocarbons as diesel
UMB	Unreinforced masonry building
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
UWMP	Urban Water Management Plan

Vara	Spanish unit of linear measurement equivalent to 2.77 feet
VOC	volatile organic compound
Western SoMa	As used in this document, the Western SoMa area is irregularly shaped and consists of two connected areas: 1) one generally referred to as “north of Harrison Street,” roughly bounded by Minna Street (an alleyway between Mission and Howard Streets) to the north, Thirteenth Street to the east, Bryant Street to the south, Seventh Street to the west; and 2) one generally referred to as “south of Harrison Street,” roughly bounded by Harrison Street to the north, Fourth Street to the east, Townsend Street to the south, and Seventh Street to the west.
WISP	Water System Improvement Program
WSA	Water Supply Assessment

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SUMMARY

INTRODUCTION

This document is a Draft Environmental Impact Report (EIR) for the proposed Fifth and Mission Project, known herein as the 5M Project (project). This chapter of the EIR provides a summary of the project, a summary of anticipated environmental impacts of the project and identified mitigation measures; areas of controversy to be resolved; a summary of alternatives to the project; and an identification of the environmentally superior alternative. The project sponsor, Forest City Residential Development, Inc., proposes to develop office, retail, residential, cultural, educational, and open space uses on an approximately 4-acre site in the southwest quadrant of Fifth and Mission Streets in Downtown San Francisco.

PROJECT SUMMARY

The project would result in the retention and renovation/rehabilitation of two buildings (the Chronicle Building at 901-933 Mission Street, constructed in 1924, and the Dempster Printing Building at 447-449 Minna Street, constructed in 1907), the demolition of six existing buildings (910 Howard Street, 912 Howard Street, 924-926 Howard Street, and 190 Fifth Street, 110 Fifth Street, and 430 Natoma Street) plus a two-story connector between 901 Mission and 110 Fifth Streets, and the construction of four new buildings (plus a connector between two buildings) on the site. Buildings would range in height from approximately 50 feet to 470 feet (including non-occupiable architectural features).¹ Two project options (with substantially the same overall gross square footage but with a varying mix of residential and office uses) are considered in the EIR; these are referred to as the “Office Scheme” and “Residential Scheme.”

¹ Unless otherwise noted, heights denoted throughout this EIR reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.

Under the Office Scheme, the completed project would include a total of 1,827,000 gsf of renovated existing buildings and new construction, comprising up to 871,900 gsf of office uses (554,200 gsf of net new office space); 802,500 gsf of residential uses (914 dwelling units); and 152,600 gsf of active ground floor uses.² Up to 663 vehicle parking spaces would be provided in three subterranean levels. About 44,600 square feet of shared open space (including 34,450 square feet of privately-owned publicly-accessible open space) would be provided throughout the site.

Under the Residential Scheme, the completed project would include a total of 1,808,800 gsf of renovated existing buildings and new construction, comprising up to 598,500 gsf of office uses (280,800 gsf of net new office space); 1,057,700 gsf of residential uses (approximately 1,209 dwelling units); and 152,600 gsf of active ground floor uses. Up to 756 vehicle parking spaces would be provided in three subterranean levels. About 59,100 square feet of shared open space (including 34,450 square feet of privately-owned publicly-accessible open space) would be provided throughout the site.

The project (comprised of either the Office Scheme or Residential Scheme) proposes changes to existing development controls for the site (including increases in permitted height and bulk) through General Plan, Planning Code, and Zoning Map text amendments, including a Special Use District (SUD), together with detailed design standards and guidelines for project development established through a Design for Development (D4D) document. The proposed project would require the following approvals (by the designated authorities):

² The exact mix of uses at the ground floor is not yet known. For the purposes of the EIR analysis, the most “conservative” assumptions (i.e., those with the potential to result in the greatest environmental impacts) are used. Gross square footage includes ground floor functions such as lobbies, parking ramps, bike parking, and loading. Refer to Section IV.D, Transportation and Circulation.

Planning Commission

1. Certification of the EIR.
2. Recommendations to the Board of Supervisors to approve the following *General Plan* Amendments:
 - Downtown Land Use and Density Plan Map (Map 1): reflect rezoning of RSD parcels to C-3-S and modification of floor area ratio (FAR) requirement;
 - Downtown Proposed Height and Bulk Districts Map (Map 5): reflect maximum building heights on the site ranging from 85 feet to 455 feet in height and change the corresponding bulk designations for the project site. Parcels would be zoned either "S" or "X."
 - Downtown Plan Figures 1 through 4, annotation concerning Project building bulk and tower separation.
 - South of Market Area Plan Generalized Land Use Map: reflect rezoning of RSD parcels to C-3-S;
 - South of Market Area Plan Density Plan Map: reflect rezoning of RSD parcels to C-3-S; and
 - South of Market Area Plan Height Plan Map: reflect rezoning of RSD parcels to C-3-S.
3. Recommendations to the Board of Supervisors to approve Zoning Map and Planning Code text amendments to create an SUD for the project site, to reclassify parcels with existing RSD zoning to the C-3-S District, and to allow changes in the height and bulk classifications.
4. Approval of the Fifth and Mission Design for Development document.
5. Conditional Use Authorization(s) for compliance with SUD/D4D (in place of Planning Code Section 309 Determination of Compliance), for buildings (and related improvements) within the project site.
6. Raising of the absolute cumulative shadow limits for Boeddeker Park pursuant to Planning Code Section 295 (joint action with Recreation and Park Commission).
7. Authorization of office space under Proposition M of the Planning Code.

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8. Recommendation to approve a Development Agreement under Administrative Code Chapter 56, addressing issues such as project vesting, phasing, fees and exactions and other public benefits.
 9. General Plan Referral for sidewalk widening, major encroachment.

Historic Preservation Commission

10. Permit to Alter (Planning Code Article 11), as needed, for potential exterior seismic retrofit/rehabilitation of the Dempster Printing Building.

Department of Public Works

11. Recommendation of street vacation of Mary Street.
12. Recommendation of vacation of Natoma Street air space (to be occupied by N2-H1 connector).
13. Approval of parcel mergers and new subdivision maps.
14. Recommendation of approval of Major Encroachment Permits.
15. Recommendation of approval of sidewalk widening legislation.
16. Authorization of street tree removal.³

San Francisco Municipal Transportation Agency

17. Approval of directional changes for Mary Street and pedestrian-only segments of Mary Street.
18. Approval of left turn restriction from Fifth Street (northbound) onto Minna Street (westbound).

³ As discussed in the Initial Study, there are two significant trees within the site, three significant trees adjacent to the site, and 10 street trees that could be affected by the project. The proposed project would likely remove all of these trees, subject to DPW review and approval.

Department of Real Estate

19. Recommendation of approval of street transfer agreement.

Board of Supervisors

20. Approval of *General Plan*, Zoning Map, and Planning Code text amendments.
21. Authorization of street vacation and approval of transfer agreement.
22. Approval of Major Encroachment Permit(s).
23. Approval of sidewalk widening legislation.
24. Approval of development agreement.

Building Department

25. Approval of site/building permits and demolition permits.

A detailed description of the proposed project is provided in Chapter II, Project Description.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

This EIR analyzes the potential environmental effects of the proposed project, as identified in the Notice of Preparation (NOP) of an EIR, issued January 30, 2013 (Appendix A of this EIR) and as updated in the CEQA Checklist Update on pages 641 and 642 of Chapter VI, Other CEQA Considerations. The Initial Study attached to the NOP (also included in Appendix A) found that the proposed project would have potentially significant environmental effects in the areas of: Land Use; Population and Housing; Cultural and Paleontological Resources; Transportation and Circulation; Noise; Air Quality; Wind and Shadow; Public Services and Recreation; and Utilities and Service Systems. Impacts in the following areas would be less than significant (some with the mitigation measures identified in the Initial Study) and are not evaluated in this EIR: Biological Resources; Geology and Soils; Greenhouse Gas Emissions; Hydrology and Water Quality; Hazards/Hazardous Materials; Mineral/Energy Resources; and Agriculture and Forest Resources.

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014 and added Section 21099 to the California Public Resources Code. Among other provisions, Public Resources Code Section 21099(d)(1) changed the typical analysis of aesthetics and parking impacts for urban infill projects under CEQA. The proposed project meets the definition of a mixed-use residential project on an infill site within a transit priority area as specified by Section 21099(a). Accordingly, this EIR does not contain a separate discussion of the topic of aesthetics, which can no longer be considered in determining the significance of the proposed project's physical environmental effects under CEQA. The EIR nonetheless provides visual simulations for informational purposes as part of Chapter II, Project Description. In addition, parking is discussed for informational purposes in Chapter IV.D, Transportation and Circulation. This information, however, does not relate to the significance determinations in the EIR.

This summary provides an overview of the analysis contained in Chapter IV, Setting, Impacts and Mitigation Measures. **Table S-1** summarizes the less-than-significant and significant impacts expected to result from the proposed project, along with identified mitigation measures.

The proposed project would result in the following significant and unavoidable impacts:

- Substantial adverse change in the significance of a historical resource due to the demolition of the Camelline Building (430 Natoma Street), a historical resource under CEQA
- Considerable contribution to the cumulative loss of historic buildings in the SoMa area that would occur as part of the implementation of past, present, and reasonably foreseeable future projects
- Significant impacts at four study intersections that would operate at Level of Service (LOS) E or LOS F, and substantial contribution to LOS E or LOS F conditions at one intersection under Existing plus Project conditions
- Considerable contributions to significant cumulative traffic impacts at nine study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions

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- Disruption of nearby streets, transit service, and pedestrian and bicycle circulation during project construction, individually and when considered with past, present, and reasonably foreseeable future projects
 - Emission of substantial amounts of Reactive Organic Gases (ROG), a regional pollutant, individually and when considered with past, present, and reasonably foreseeable future projects

AREAS OF CONTROVERSY TO BE RESOLVED

On the basis of public comments submitted after publication of the EIR Notice of Preparation (NOP), and at the public scoping meeting (held February 20, 2013), potential areas of controversy and unresolved issues for the proposed projects include:

- Provision of affordable housing
- Increases in traffic congestion and changes to circulation patterns
- Pedestrian safety
- Provision of parks and open space
- Conflicts with existing land uses
- Impacts to wind and shadow patterns
- Construction period impacts related to transportation, noise, and vibration

The issues listed above are discussed in this EIR.

SUMMARY OF ALTERNATIVES

The following alternatives to the project are considered in this EIR:

- The **No Project Alternative**, under which the project site would not be redeveloped in the short-term, and would remain generally in its existing condition.

- The **Code Compliant Alternative**, under which the project site would be developed with a mix of land uses, consistent with the existing zoning and Planning Code regulations.
- The **Unified Zoning Alternative**, under which the southwest corner of Howard and Fifth Street (the H-1 parcel) would be rezoned from Residential Service District (RSD) to the Downtown Support District (C-3-S) and a mix of uses would be developed on the site.
- The **Preservation Alternative**, under which the Camelline Building (430 Natoma Street), a historical resource under CEQA, would be preserved and a mixed-use building program similar to that of the project (about 1.7 million square feet) would be implemented in a configuration differing from the project in response to preserving the Camelline building on parcel N-1.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The proposed project would result in significant unavoidable effects to cultural and paleontological resources; transportation and circulation; and air quality. The No Project Alternative would avoid these significant effects. The environmentally superior alternative is that alternative (other than the No Project Alternative) that would result in the least substantial environmental effects of any alternative. Thus, this EIR identified the Preservation Alternative as the environmentally superior alternative because it would accommodate substantial development on the site while avoiding the direct historic resource impact from demolition of the Camelline Building; such an impact would be irreversible. In addition, as a result of the slightly lower trip generation and reduced residential uses of the Preservation Alternative, it would not result in the significant and unavoidable air quality impacts identified for the project; the proposed project would generate reactive organic gasses, a regional pollutant, at levels in excess of established thresholds. The significant unavoidable impacts to transportation and circulation identified for the proposed project would also result from the Preservation Alternative; however, to a lesser degree than that of the proposed project.

SUMMARY TABLES

Table S-1 includes impacts and mitigation measures identified in the EIR for the proposed project, and **Table S-2** includes impacts and mitigation measures identified in the Initial Study. The information in the tables is organized to correspond with environmental issues discussed in Chapter IV of the EIR and the Initial Study included in Appendix A. The tables are arranged in four columns: 1) impacts; 2) level of significance prior to mitigation measures (if applicable); 3) mitigation measures (if applicable); and 4) level of significance after mitigation (if applicable). For a complete description of potential impacts and recommended mitigation measures, please refer to the topical sections in Chapter IV of the EIR and the Initial Study included in Appendix A. This EIR also identifies Improvement Measures where applicable. Improvement Measures are not required to reduce, avoid or eliminate adverse physical changes. Instead, they are identified as ways to further reduce the magnitude of less-than-significant impacts and may be adopted by decision-makers as conditions of project approval. Improvement Measures are presented at the end of **Table S-1**.

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
Land Use			
<u>LU-1a</u> : The Office Scheme would not physically divide an existing community.	LTS	None required.	NA
<u>LU-1b</u> : The Residential Scheme would not physically divide an existing community.	LTS	None required.	NA
<u>LU-2a</u> : The Office Scheme would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	None required.	NA
<u>LU-2b</u> : The Residential Scheme would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	None required.	NA
<u>LU-3a</u> : The Office Scheme would not have a substantial impact upon the existing character of the site's vicinity.	LTS	None required.	NA
<u>LU-3b</u> : The Residential Scheme would not have a substantial impact upon the existing character of the site's vicinity.	LTS	None required.	NA
<u>C-LU-1</u> : The Office or Residential Schemes, in combination with past, present and reasonably foreseeable future projects in the vicinity of the site, would not contribute to a considerable cumulative land use impact.	LTS	None required.	NA
Population and Housing			
<u>PH-1a</u> : The Office Scheme would not substantially induce population growth, either directly or indirectly.	LTS	None required.	NA
<u>PH-1b</u> : The Residential Scheme would not substantially induce population growth, either directly or indirectly.	LTS	None required.	NA
<u>PH-2a</u> : The Office Scheme would not displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>PH-2b</u> : The Residential Scheme would not displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing.	LTS	None required.	NA
<u>C-PH-1</u> : The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future projects, would not induce substantial population growth either directly or indirectly, displace substantial numbers of existing units, or create demand for additional housing, necessitating the construction of replacement housing.	LTS	None required.	NA
Cultural and Paleontological Resources			
<u>CP-1</u> : The Office Scheme or Residential Scheme would not cause a substantial adverse change in the significance of a historical resource due to: 1) the demolition of a total of five buildings at 110 Fifth Street, 190 Fifth Street, 910 Howard Street, 912 Howard Street, and 924-926 Howard Street, as well as the two-story pedestrian connector between the Chronicle and Examiner Buildings, which are not considered historical resources.	NI	None required.	NA
<u>CP-2</u> : The Office Scheme or Residential Scheme could cause a substantial adverse change in the significance of a historical resource (including two historical resources within the project site (Chronicle Building and Dempster Printing Building) and three historical resources in the immediate vicinity of the project area (88 Fifth Street, 66 Mint Street and 955-965 Mission Street)) due to the demolition of six buildings, below-grade excavation and foundation work, possible pile driving, new building framing, and associated ground borne vibrations.	S	<u>M-CP-2a</u> : Prior to demolition and construction, a historic preservation architect and a structural engineer shall undertake an existing condition study of the following five buildings: <ul style="list-style-type: none"> • 901-933 Mission Street; • 447-449 Minna Street; • 88 Fifth Street; • 66 Mint Street; and • 959-965 Mission Street. 	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
CP-2 <i>Continued</i>		<p>The existing condition studies will establish the baseline condition of each building prior to demolition and construction, including the location and extent of any visible cracks or spalls. For each resource, the documentation shall include written descriptions and photographs, and shall include those physical characteristics of the resource that convey its historic significance and that justify its classification as a historical resource. The documentation will be submitted to the Planning Department Preservation Technical Specialist for review and approval.</p> <p>The historical architect and structural engineer shall monitor the five historical resources identified above during demolition and construction and report any changes to existing conditions, including, but not limited to, expansion of existing cracks, new spalls, or other exterior deterioration. The structural engineer will consult with the historic preservation architect, especially if any problems with character-defining features of a historic resource are discovered. If in the opinion of the structural engineer, in consultation with the historic preservation architect, substantial adverse impacts to historical resources related to construction activities are found during construction, the monitoring team shall so inform the project sponsor or sponsor's designated representative responsible for construction activities. Monitoring reports shall be submitted on a periodic basis to the Planning Department Preservation Technical Specialist assigned to the project. The Preservation Technical Specialist, in consultation with the structural engineer and historic preservation architect, shall establish the frequency of monitoring and reporting.</p>	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
CP-2 <i>Continued</i>		The project applicant shall adhere to the monitoring team's recommendations for corrective measures, including halting construction in situations where construction activities will imminently endanger historic resources. The project applicant will respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by the project applicant's designated representative. Any new cracks or other changes in any of the five historical resources identified above will be compared to pre-construction conditions and a determination made as to whether the proposed project could have caused such damage. In the event that the project is demonstrated to have caused any damage, such damage will be repaired in accordance with the requirements of the applicable Secretary of the Interior Standards for the Treatment of Historic Properties.	
	S	<u>M-CP-2b</u> : Prior to construction, a qualified geologist or other professional with expertise in ground vibration and its effect on existing structures shall determine the construction equipment and methods that will generate the groundborne vibration levels (as measured in PPV) that do not exceed those identified for the protection of historic buildings in the FTA's Transit Noise and Vibration Assessment. The construction equipment and methods that will generate no more than the maximum groundborne vibration levels, and that can be feasibly implemented, shall be used to construct the project. If pile-driving is being used, initial pile-driving shall be monitored and if vibrations are above threshold levels, modifications shall be made to reduce vibrations to below established levels. A copy of the contract specifications and monitoring reports shall be provided to the Planning Department Preservation Technical Specialist assigned to the project.	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
CP-2 <i>Continued</i>	S	<u>M-CP-2c</u> : Prior to demolition and construction, a registered structural engineer with experience in the rehabilitation and restoration of historic buildings shall determine whether, due to the nature of the site's soils, the proposed method of soil removal, and the existing foundations of the historic buildings, project-related excavations have the potential to cause settlement such that underpinning and/or shoring of 901-933 Mission Street, and/or 959-965 Mission Street, and/or 447 Minna Street will be required. If underpinning or shoring is determined to be necessary, appropriate designs shall be prepared and implemented. All documents prepared in accordance with this Measure will be provided to the Preservation Technical Specialist assigned to the project and reviewed and approved by the appropriate permitting Department.	LTS
	S	<u>M-CP-2d</u> : Prior to demolition and construction, a historic preservation architect shall establish a training program that emphasizes the importance of protecting historical resources for construction workers who are anticipated to work directly with potentially sensitive areas, such as workers involved in excavation or demolition. This program shall include information on recognizing historic fabric and materials, and directions on how to exercise care when working around and operating equipment near 901-933 Mission Street, 959-965 Mission Street, and 447-449 Minna Street, including storage of materials away from the historic buildings. The training will also include information on means to reduce vibrations from demolition and construction, and monitoring and reporting any potential problems that could affect historical resources. A provision for establishing this training program shall be incorporated into the project sponsor's contract(s) with its construction contractor(s), and the contract provisions related to this training program will be reviewed and approved by the Planning Department Preservation Technical Specialist.	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>CP-3</u>: The Office Scheme or Residential Scheme would cause a substantial adverse change in the significance of a historical resource due to the demolition of the Camelline Building (430 Natoma Street), a historical resource under CEQA.</p>	SU	<p><u>M-CP-3</u>: Prior to issuance of demolition or site permits related directly to the Camelline Building, the project applicant shall undertake Historic American Building Survey (HABS) documentation of the Camelline Building at 430 Natoma Street. The documentation shall be undertaken by a qualified professional who meets, at a minimum, the Secretary of the Interior's Professional Qualifications Standards for architectural history or historic architecture. Documentation shall be conducted in consultation with a Planning Department Preservation Technical Specialist and will be submitted for review and approval by the Department's Preservation Technical Specialist. The documentation shall consist of the following:</p> <ul style="list-style-type: none"> • Measured Drawings: Existing drawings of the Camelline Building, if available, shall be photographed with large-format negatives or photographically reproduced on Mylar. In the absence of existing drawings, full-measured drawings of the building's plan and primary (south and west) elevations shall be prepared. • HABS-Level Photographs: Digital photographs of the interior and the exterior of the subject property. Large format negatives are not required. The scope of the digital photographs shall be reviewed by Planning Department Preservation Technical Specialist for concurrence. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography; and • Historical Overview: In consultation with a Planning Department Preservation Technical Specialist, a qualified historian or architectural historian shall assemble historical background information relevant to the Camelline Building and its setting. Much, if not all, of this information may be drawn from the <i>Historical Resource Evaluation Report (HRE)</i> for the project. 	SUM

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
CP-3 <i>Continued</i>		<p>To ensure its public accessibility, the documentation shall be filed with the Planning Department, San Francisco History Center at the Main Library, the Northwest Information Center of the California Historical Resources Information System, and San Francisco Architectural Heritage.</p> <ul style="list-style-type: none"> • Interpretive Display: The applicant shall set aside a publicly accessible space within the current project site for an interpretive panel that briefly documents the historical significance of the Camelline Building within the context of City history. The panel shall include historical photographs and/or drawings of the building as well as HABS photographs described above. 	
<p><u>CP-4:</u> The Office Scheme or Residential Scheme would result in actions that could cause a substantial adverse change in the significance of the Chronicle Building (901-933 Mission Street), a historical resource under CEQA. These actions would (1) demolish and remove the two-story pedestrian connector between the Chronicle and Examiner Buildings (425-433 Minna Street), the non-historic, above-grade pedestrian bridge that is attached to the south wall of the Chronicle Building; (2) develop open space on the rooftop of the Chronicle Building; and (3) rehabilitate the Chronicle Building, which could endanger its historic status.</p>	S	<p><u>M-CP-4a:</u> Prior to issuance of site or construction permits related directly to the Chronicle Building, proposed plans for the rehabilitation of the Chronicle Building shall be submitted to the Planning Department Preservation Technical Specialist for review and approval. Any work that affects the character-defining features of the exterior of the Chronicle Building shall be conducted in accordance with the <i>Secretary of the Interior's Standards for Rehabilitation</i> and undertaken with the assistance of a historic preservation architect meeting the <i>Secretary of the Interior's Standards Professional Qualifications Standards</i>. The historic preservation architect will evaluate the proposed project to assess the treatment of the building's character-defining features and for conformance with the Secretary of the Interior's Standards for Rehabilitation. The historic preservation architect shall regularly evaluate the ongoing renovation to ensure it continues to satisfy the Standards and will submit status reports to the Planning Department Preservation Technical Specialist according to a schedule agreed upon prior to commencement of the work.</p>	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
CP-4 <i>Continued</i>		<u>M-CP-4b</u> : The greenhouses and kiosk rooftop additions to the Chronicle Building would be setback so as to be minimally visible from the street and would not obscure, remove, or damage any character-defining features of the Chronicle Building. A Planning Department Preservation Technical Specialist shall conduct a design review of the rooftop additions to ensure that these are in conformance with the Secretary of the Interior's Standards for Rehabilitation.	LTS
<u>CP-5</u> : The Office Scheme or Residential Scheme could cause a substantial adverse change in the significance of a historical resource by rehabilitating the Dempster Printing Building at 447-449 Minna Street, which could endanger the building's historic status.	S	<u>M-CP-5</u> : Prior to issuance of site or construction permits related directly to the Dempster Printing Building, proposed plans for the rehabilitation of the Dempster Printing Building shall be submitted to the Planning Department Preservation Technical Specialist for review and approval pursuant to the requirements of Article 11. Any alteration of the 447-449 Minna Street exterior shall be conducted in accordance with the Secretary of the Interior's Standards for Rehabilitation and undertaken with the assistance of a historic preservation architect meeting the Secretary of the Interior's Standards Professional Qualifications Standards. The historic preservation architect shall regularly evaluate the ongoing renovation to ensure it continues to satisfy the Standards. The historic preservation architect shall submit status reports to a City Planning Department Preservation Technical Specialist according to a schedule agreed upon prior to commencement of the work.	LTS
<u>CP-6</u> : The Office Scheme or Residential Scheme would not cause a substantial adverse change in the significance of historical resources through use of building materials or wall treatments that are incompatible with adjacent historical resources, including the Chronicle Building, and 194-198 Fifth Street and 934 Howard Street, two Category B potential historical resources that are adjacent to the proposed project.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>CP-7</u>: The Office Scheme or Residential Scheme could cause a substantial adverse change in the significance of an archaeological resource because it would require excavation for building demolition, pavement removal, and construction of underground parking.</p>	S	<p><u>M-CP-7</u>: The project applicant shall retain the services of an archaeological consultant for the project from the pool of qualified archaeological consultants maintained by the San Francisco Planning Department. The archaeological consultant shall prepare plans, reports, and implement excavation programs, as described below. The archaeological consultant's work shall be conducted in accordance with this measure at the direction of the San Francisco Planning Department. All plans and reports prepared by the archaeological consultant, as specified below, shall be submitted to the San Francisco Planning Department for review and comment and shall be considered draft reports subject to revision until final approval.</p> <p>The archaeological consultant shall undertake the following tasks.</p> <p><u>Archaeological Testing, Evaluation, and Data Recovery</u></p> <p>The archaeological consultant shall prepare an Archaeological Testing Plan (ATP) that describes where and how portions of the project site will be examined before construction to identify archaeological remains, if any. The purpose of the ATP is to propose a research context and methods to identify and evaluate whether any archaeological deposits that underlie the project site constitute archaeological resources or historical resources under CEQA.</p> <p>The ATP may adapt portions of the Archaeological Resources Design and Testing Plan prepared for the project, as needed, including research design, field methods, and laboratory methods. The ATP shall be implemented after approval by the San Francisco Planning Department.</p>	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
CP-7 <i>Continued</i>		<p>After implementation of the ATP, the archaeological consultant shall prepare an Archaeological Testing/Evaluation Report for submittal to the San Francisco Planning Department for review that presents findings from the testing program implemented as part of the ATP. The Archaeological Testing/Evaluation Report will present a systematic evaluation of any archaeological deposits identified in the project site and their eligibility for listing in the California Register of Historical Resources.</p> <p>If the San Francisco Planning Department determines that, based on the results presented in the Archaeological Testing/Evaluation Report, a significant archaeological resource or historical resource is present and that the resource could be adversely affected by the project, an Archaeological Data Recovery Program shall be implemented. The results of the Archaeological Data Recovery Program shall be presented in a report of findings for review and approval by the San Francisco Planning Department. The final Archaeological Data Recovery Program report of findings shall be submitted to the Northwest Information Center at Sonoma State University, Rohnert Park, California.</p> <p><u>Archaeological Monitoring</u></p> <p>Depending upon results of the identification and evaluation of archaeological deposits conducted pursuant to the ATP, the San Francisco Planning Department may require archaeological monitoring during construction in specific areas defined as moderately or highly sensitive for archaeological resources. Archaeological monitors shall be empowered to stop construction activity at the location of a potential find to evaluate the discovery and make recommendations in consultation with the San Francisco Planning Department, as appropriate.</p>	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>CP-8</u>: The Office Scheme or Residential Scheme could indirectly destroy a unique paleontological resource due to excavation activities.</p>	S	<p><u>M-CP-8</u>: The project applicant shall retain the services of a qualified paleontological consultant to design and implement a Paleontological Resources Monitoring and Mitigation Program (PRMMP). The PRMMP shall include a description of when and where construction monitoring will be required; emergency discovery procedures; sampling and data recovery procedures; procedure for the preparation, identification, analysis, and curation of fossil specimens and data recovered; preconstruction coordination procedures; and procedures for reporting the results of the monitoring program. The PRMMP shall be consistent with the Society for Vertebrate Paleontology Standard Guidelines for the mitigation of construction-related adverse impacts to paleontological resources and the requirements of the designated repository for any fossils collected.</p> <p>During construction, earth-moving activities shall be monitored by a qualified paleontological consultant having expertise in California paleontology in the areas where these activities have the potential to disturb previously undisturbed native sediment or sedimentary rocks. Paleontological monitoring will not be required for areas that are of low sensitivity for containing fossils, i.e., within fill and Holocene-age deposits. The paleontological consultant's work shall be conducted in accordance with this measure and at the direction of the San Francisco Planning Department. The consultant shall submit plans and reports prepared for the project to the San Francisco Planning Department for review and comment, and shall be considered draft reports subject to revision until final approval by the San Francisco Planning Department.</p>	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>CP-9</u> : The Office Scheme or Residential Scheme could disturb human remains, due to excavation activities.	S	<u>M-CP-9</u> : The treatment of human remains and of associated or unassociated funerary objects discovered during any soil disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Public Resources Code Section 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement shall take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.	LTS
<u>C-CP-1</u> : The Office Scheme or Residential Scheme would demolish the Camelline Building at 430 Natoma Street, a historical resource under CEQA. Demolition of this resource, in combination with demolition or removal of historical resources by past, present, and reasonably foreseeable future projects, would make a cumulatively considerable contribution to a significant impact.	SU	Implement Mitigation Measures M-CP-3a and M-CP-3b	SUM
<u>C-CP-2</u> : The Office Scheme or Residential Scheme could disturb archaeological resources, paleontological resources, and human remains. Disturbance of these resources and remains, in combination with past, present, and reasonably foreseeable future projects, would make a cumulatively considerable contribution to a significant impact.	S	Implement Mitigation Measures M-CP-9, M-CP-10, and M-CP-11	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
Transportation and Circulation			
<u>TR-1:</u> The Office Scheme or Residential Scheme would result in a significant impact at four study intersections that would operate at LOS E or LOS F, and contribute considerably to LOS E or LOS F conditions at one intersection under Existing plus Project conditions.	SU	None feasible.	SU
<u>TR-2:</u> The Office Scheme or Residential Scheme would have less-than-significant impacts at 17 study intersections under Existing plus Project conditions.	LTS	None required.	NA
<u>TR-3:</u> The garage operations of the Office Scheme or Residential Scheme would not result in substantial conflicts that would adversely affect traffic, transit, bicycle, and pedestrian operations.	LTS	None required. See Improvement Measure I-TR-A.	NA
<u>TR-4:</u> The Office Scheme or Residential Scheme would not result in a substantial increase in transit demand that could not be accommodated by adjacent Muni transit capacity; nor would it cause a substantial increase in delays or costs such that significant adverse impacts to Muni transit service could occur.	LTS	None required. See Improvement Measure I-TR-B.	NA
<u>TR-5:</u> The Office Scheme or Residential Scheme would not result in a substantial increase in transit demand that could not be accommodated by regional transit capacity; nor would it cause a substantial increase in delays or costs such that significant adverse impacts to regional transit service could occur.	LTS	None required.	NA
<u>TR-6:</u> The Office Scheme or Residential Scheme would not result in potentially hazardous conditions for bicyclists, or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>TR-7:</u> The Office Scheme or Residential Scheme would result in a significant impact at the east crosswalk and southeast corner of the intersection of Fifth/Mission Streets, but otherwise would not result in substantial overcrowding on public sidewalks, nor create potentially hazardous conditions for pedestrians, or otherwise substantially interfere with pedestrian accessibility to the site and adjoining areas.</p>	S	<p><u>M-TR-7:</u> Widen the east sidewalk on Fifth Street between Minna and Mission Streets and widen the east crosswalk at the intersection of Fifth/Mission Streets.</p> <p>The project sponsor shall financially compensate the SFMTA for the cost of service to design and implement the following:</p> <ul style="list-style-type: none"> • A sidewalk extension of the east sidewalk on Fifth Street between Minna and Mission Streets by 10 to 15 feet. • Restriping and widening of the east crosswalk at the intersection of Fifth/Mission Streets to 25 feet. • Traffic and pedestrian signal upgrades at the intersection of Fifth/Mission Streets. • Restriping of the Minna Street travel lanes between Fifth Street and the garage entrances to provide for additional vehicle queuing on Minna Street. • New and more visible "MINNA STREET GARAGE ENTRANCE" and "GARAGE FULL" signs at the Fifth and Mission Garage. <p>The amount and schedule for payment and commitment shall be set forth in the Mitigation Monitoring and Reporting Program.</p>	LTS
<p><u>TR-8:</u> The loading demand of the Office Scheme or Residential Scheme would be accommodated within the existing and proposed on-street and off-street loading spaces, and would not create potentially hazardous conditions or significant delays for traffic, transit, bicyclists or pedestrians.</p>	LTS	None required. See Improvement Measure I-TR-C.	NA
<p><u>TR-9:</u> The Office Scheme or Residential Scheme would not result in significant impacts on emergency vehicle access.</p>	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>TR-10</u>: Construction of the Office Scheme or Residential Scheme project would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.</p>	SU	<p><u>M-TR-10</u>: Construction Measures</p> <p><u>Construction Coordination</u> – To reduce potential conflicts between construction activities and pedestrians, bicyclists, transit and vehicles at the project site, the contractor shall prepare a Construction Management Plan for the project construction period. The project sponsor/construction contractor(s) shall also meet with DPW, SFMTA, the Fire Department, Muni Operations and other City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations (not anticipated, but if determined necessary) and other measures to reduce potential traffic, bicycle, and transit disruption and pedestrian circulation effects during construction of the proposed project. This review shall consider other ongoing construction in the project area, such as construction of the nearby Central Subway Moscone Station. As part of this effort, alternate construction staging locations shall be identified and assessed.</p> <p><u>Carpool and Transit Access for Construction Workers</u> – To minimize parking demand and vehicle trips associated with construction workers, the construction contractor shall include methods to encourage carpooling and transit access to the project site by construction workers in the Construction Management Plan.</p> <p><u>Construction Truck Traffic Management</u> – To minimize construction traffic impacts on Mission, Fifth, and Howard Streets, and on pedestrian, transit, bicycle and traffic operations, the construction contractor shall be required to retain traffic control officers during peak construction periods.</p>	SUM

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
TR-10 <i>Continued</i>		<u>Project Construction Updates for Adjacent Businesses and Residents</u> – To minimize construction impacts on access to nearby institutions and businesses, the project sponsor shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, parking lane and sidewalk closures. A regular email notice shall be distributed by project sponsor that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns.	
<u>C-TR-1:</u> The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in a considerable contribution to significant cumulative traffic impacts at nine study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions.	SU	The proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would contribute considerably to significant cumulative traffic impacts at the nine study intersections of Fourth/Howard, Sixth/Folsom, Sixth/Bryant, Sixth/Brannan, Fourth/Mission, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, and Sixth/Harrison Streets, and the significant cumulative impacts would be significant and unavoidable.	SU
<u>C-TR-2:</u> The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in a considerable contribution to significant cumulative traffic impacts at eight study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions, and would result in less-than-significant cumulative impacts at four study intersections that would operate at LOS D or better under 2040 Cumulative conditions.	LTS	None required.	NA
<u>C-TR-3:</u> The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in a considerable contribution to significant 2040 Cumulative transit impacts at Muni screenlines.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>C-TR-4</u> : The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant regional transit impacts on AC Transit, Caltrain, Golden Gate Transit, SamTrans and other regional ferry service under 2040 Cumulative conditions.	LTS	None required.	NA
<u>C-TR-5</u> : The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative bicycle impacts.	LTS	None required.	NA
<u>C-TR-6</u> : The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative pedestrian impacts.	LTS	None required.	NA
<u>C-TR-7</u> : The proposed project, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative loading impacts.	LTS	None required.	NA
<u>C-TR-8</u> : The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative emergency vehicle access impacts.	LTS	None required.	NA
<u>C-TR-9</u> : The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.	SU	Implement Mitigation Measure M-TR-10.	SUM

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
Noise			
<p><u>NO-1:</u> Construction of the Office Scheme or Residential Scheme would generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance and would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	S	<p><u>M-NO-1:</u> To ensure that project noise from construction is minimized to the maximum extent feasible, the project sponsor shall prepare and implement a noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible, subject to review and approval by the Planning Department and Department of Building Inspection prior to the issuance of project-specific permits.</p> <p>The noise reduction program shall include the following measures:</p> <ul style="list-style-type: none"> • To reduce impacts associated with pile driving, a set of site-specific noise attenuation measures shall be implemented under the supervision of a qualified acoustical consultant during the project construction period. These attenuation measures shall include as many of the following control strategies, and any other effective strategies, as feasible: <ul style="list-style-type: none"> ○ The project sponsor shall require the construction contractor to erect temporary plywood noise barriers along the boundaries of the project site to shield potential sensitive receptors and reduce noise levels; ○ The project sponsor shall require the construction contractor to implement “quiet” pile-driving technology (such as predrilling of piles, sonic pile drivers, and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of technical and structural requirements and conditions; 	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
NO-1 <i>Continued</i>		<ul style="list-style-type: none"> ○ The project sponsor shall require the construction contractor to monitor the effectiveness of noise attenuation measures by taking noise measurement; and ○ The project sponsor shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses. • The following additional construction-period measures shall be implemented: <ul style="list-style-type: none"> ○ The project sponsor shall 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). ○ The project sponsor shall require the general contractor to locate stationary noise sources (such as compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as 5 dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible. 	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
NO-1 <i>Continued</i>		<ul style="list-style-type: none"> ○ The project sponsor shall 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, exhaust mufflers on the compressed air exhaust apparatuses shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA. ○ The project sponsor shall include noise control requirements in specifications provided to construction contractors. Such requirements could include, but not be limited to, performing all work in a manner that minimizes noise to the extent feasible; use of equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants, as feasible; and selecting haul routes that avoid residential buildings inasmuch as such routes are otherwise feasible. • Prior to the issuance of the building permit, along with the submission of construction documents, the project sponsor shall submit to the Planning Department and Department of Building Inspection a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include: 1) a procedure and phone numbers for notifying the Department of Building Inspection, the Department of Public Health, and the Police Department of complaints (during regular construction hours and off-hours); 2) a sign posted on-site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction; 3) designation of an on-site construction complaint and enforcement manager for 	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
NO-1 <i>Continued</i>		the project; and 4) 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 noise levels of 90 dBA or greater) about the estimated duration of the activity and associated control measures that will be implemented to reduce noise levels.	
NO-2: Construction of the Office Scheme or Residential Scheme would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	S	M-NO-2: Implement Mitigation Measures M-NO-1, M-CP-2a, and M-CP-2b.	LTS
NO-3: Operation of the Office Scheme or Residential Scheme would generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance and would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	S	M-NO-3: The project sponsor shall incorporate standard industrial noise control measures for stationary equipment. Such measures may include enclosing equipment in sound- attenuating structures, using buildings to shield these noise sources from sensitive receptors, or mounting equipment on resilient pads to reduce both groundborne and airborne vibration noises. The project sponsor shall ensure that operational noise from stationary sources would not exceed the thresholds set forth in the Noise Ordinance for fixed source noise. The project sponsor shall use standard design features/ approaches, including installation of relatively quiet models of mechanical equipment, installation of exhaust silencers, orientation or shielding to protect sensitive uses, and installation within enclosures when necessary to reduce stationary, or fixed source, noise levels to below the established threshold when measured at the property line of the nearest affected sensitive receptor.	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>NO-4</u> : New residential uses and open space uses developed under either the Office Scheme or Residential Scheme may be affected by substantial existing noise levels.	S	<u>M-NO-4</u> : All residential units shall be designed to meet the interior noise standard of 45 dBA Ldn so that windows and doors can remain closed, and an alternate form of ventilation shall be provided, such as mechanical ventilation or air conditioning. Once design plans have been finalized, the project sponsor shall prepare a detailed final acoustical analysis report with building design noise reduction requirements identified that would provide an interior noise level of 45 dBA. This report shall be submitted to the Department of Building Inspection (DBI) prior to issuance of a building permit.	LTS
<u>NO-5</u> : The Office Scheme or Residential Scheme would not expose people to excessive groundborne vibration or groundborne noise levels and the proposed project's new residential uses would not be substantially affected by existing vibration levels.	LTS	None required.	NA
<u>C-NO-1</u> : Construction of the proposed project, in combination with other past, present, and reasonably foreseeable future projects in the project vicinity, would result in significant temporary or periodic cumulative increases in ambient noise or vibration levels in the project vicinity above levels existing without the proposed project.	S	Implement Mitigation Measure M-NO-1.	LTS
<u>C-NO-2</u> : Operation of the Office Scheme or Residential Scheme in combination with other past, present, and reasonably foreseeable future projects in the project vicinity would not result in a significant cumulative permanent increases in ambient noise levels in the project vicinity above levels existing without the project.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
Air Quality			
<u>AQ-1:</u> Construction of the Office or Residential Scheme would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	LTS	None required.	NA
<u>AQ-2:</u> During Office Scheme or Residential Scheme operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants.	SU	<u>M-AQ-2:</u> Reactive Organic Gases (ROG) Emission Reduction Measures. To reduce ROG emissions associated with the project, the project sponsor shall implement the following: <ul style="list-style-type: none"> • Provide Education for Residential and Commercial Tenants. Prior to receipt of any building permit and every five years thereafter, the project sponsor shall work with the San Francisco Department of Environment to develop electronic correspondence to be distributed by email annually to tenants of the project which encourages the purchase of consumer products that are better for the environment and generate less VOC emissions. The correspondence shall encourage environmentally preferable purchasing and shall include contact information and links to SF Approved. • Transportation Demand Management (TDM) Plan. The project applicant and subsequent property owners shall prepare and implement a TDM Plan with a goal of reducing estimated one-way vehicle trips by 20 (twenty) percent compared to the projections within the project's Transportation Impact Study. Prior to final certificate of occupancy for any new building associated with the project, the project applicant shall submit a TDM Plan to the Planning Department staff. 	SUM

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-2 <i>Continued</i>		<p>The project applicant is responsible for identifying the components of the TDM Plan that could reasonably be expected to achieve the reduction goal for each new building associated with the project, and for making good faith efforts to implement them. Components of the TDM Plan beyond Planning Code requirements could include, but are not limited to, education and marketing of transportation options; on-site safety strategies; subsidies for transportation options other than the single occupancy vehicle; providing additional car-share or bicycle parking; reducing the amount or restricting access to vehicular parking; unbundling vehicular parking from commercial tenants occupancy; and increasing the cost of vehicular parking.</p> <p>The TDM Plan shall include monitoring of person and vehicle trips traveling to and from the project site to determine the TDM Plan's effectiveness, as outlined below. The TDM Plan shall be adjusted based on the monitoring results if three consecutive monitoring results show that existing measures are not creating a trend toward meeting the reduction goal.</p> <p><i>TDM Plan Monitoring:</i> The project sponsor shall collect data and make monitoring reports available for review and approval by the Planning Department staff.</p>	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-2 <i>Continued</i>		<ul style="list-style-type: none"> o <u>Timing</u>: Monitoring data and reports shall be required to be submitted to Planning Department staff every two years for a period of eight years and every four years thereafter (referred to as reporting periods), until two consecutive reporting periods display the project has met the reduction goal. The first monitoring report is required one year after initial occupancy of buildings following completion of both phases of construction or one year after initial occupancy of buildings that bring the project's total gross square footage to greater than 1,100,000, whichever occurs first. The timing may be modified by the Planning Department as needed to consolidate this requirement with other annual monitoring and/or reporting requirements for the project. Each trip count and survey (see below for definitions) shall be completed within 90 days following the end of the applicable reporting period. Each monitoring report shall be completed within 180 days following the applicable reporting period. o <u>Components</u>: The monitoring report, including trip counts and surveys, shall include the following components OR comparable alternative methodology and components as approved or provided by Planning Department staff: 	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-2 <i>Continued</i>		<ul style="list-style-type: none"> ■ Trip Count and Intercept Survey: Trip count and intercept survey of persons and vehicles arriving and leaving the building for no less than two days of the reporting period between 6:00 a.m. and 8:00 p.m. One day shall be a Tuesday, Wednesday, or Thursday, and another day shall be a Saturday. ■ Property Manager/Coordinator Survey: The project sponsor shall request in writing from Planning Department Staff a survey (online or paper) that shall be completed by property manager/coordinator to document which TDM Plan were implemented during the reporting period and obtain basic building information (e.g., percent unit occupancy, off-site parking utilization by occupants of the building, loading frequency, etc.). This survey shall be included in the monitoring report submitted to Planning Department staff. ■ Travel Demand Information: The above trip count and survey information shall be able to provide travel demand analysis characteristics as outlined in the <i>SF Guidelines</i> in effect at the time of the survey. ■ Assistance and Confidentiality: Planning Department staff will assist the TDM Coordinator on questions regarding the components of the monitoring report and shall ensure that the identity of individual survey responders is protected. 	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-2 <i>Continued</i>		<p>The project applicant does not have the authority to dictate the types of consumer products used by its building occupants. Mitigation Measure M-AQ-2 would require the project applicant to educate residential tenants and encourage commercial tenants to purchase products that are safer and better for the environment. However, given the project applicant does not have authority to require use of certain products, no reduction in ROG emissions can be attributed to this measure. Furthermore, the project applicant cannot require participation in all proposed measures under its TDM Plan, and the trip reduction number is stated as a goal and not an absolute requirement. However, if such measures are implemented and meet the 20 percent reduction goal, then they would reduce the ROG emissions generated by the project to an estimated 58 pounds per day and 10.5 tons per year. ROG emissions would remain above the significance threshold of 54 pounds per day and 10 tons per year. In order for the project to reduce ROG emissions to below the significance threshold, the project would have to reduce their one-way daily vehicle trips by approximately 53 percent. A higher performance standard in the mitigation measure was determined speculative given the current limited amount of data in San Francisco regarding the effectiveness of Transportation Demand Management measures, the voluntary nature of compliance with TDM measures by users of the buildings, and the uncertain feasibility of achieving a greater reduction goal. Therefore, this impact would be considered significant and unavoidable.</p>	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>AQ-3</u>: Construction and operation of the Office Scheme or Residential Scheme would generate toxic air contaminants, including diesel particulate matter, which would expose sensitive receptors to substantial pollutant concentrations.</p>	S	<p><u>M-AQ-3a</u>: Construction Emissions Minimization. To reduce the health risk associated with construction of the Office Scheme or Residential Scheme, prior to and during construction, the project sponsor shall implement the following multi-part construction emissions minimization measure:</p> <ol style="list-style-type: none"> 1. All off-road equipment greater than 25 hp and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements: <ol style="list-style-type: none"> a) Where access to alternative sources of power are reasonably available, portable diesel engines shall be prohibited; b) All off-road equipment shall have: <ol style="list-style-type: none"> i. Engines that meet or exceed either U.S. Environmental Protection Agency (USEPA) or California Air Resources Board (ARB) Tier 2 off-road emission standards, and ii. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS). c) Exceptions: <ol style="list-style-type: none"> i. Exceptions to A(1)(a) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that an alternative source of power is limited or infeasible at the project site and that the requirements of this exception provision apply. Under this circumstance, the sponsor shall submit documentation of compliance with A(1)(b) for onsite power generation. 	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation												
AQ-3 <i>Continued</i>		<p>ii. Exceptions to A(1)(b)(ii) <i>may</i> be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that a particular piece of off-road equipment with an ARB Level 3 VDECS is: (1) technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, (3) installing the control device would create a safety hazard or impaired visibility for the operator, or (4) there is a compelling emergency need to use off-road equipment that are not retrofitted with an ARB Level 3 VDECS and the sponsor has submitted documentation to the ERO that the requirements of this exception provision apply. If granted an exception to A(1)(b)(ii), the project sponsor must comply with the requirements of A(1)(c)(iii).</p> <p>iii. If an exception is granted pursuant to A(1)(c)(ii), the project sponsor shall provide the next cleanest piece of off-road equipment as provided by the step down schedules in Table A.</p> <p>Table A – Off-Road Equipment Compliance Step-down Schedule</p> <table border="1" data-bbox="1108 1042 1730 1175"> <thead> <tr> <th>Compliance Alternative</th> <th>Engine Emission Standard</th> <th>Emissions Control</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Tier 2</td> <td>ARB Level 2 VDECS</td> </tr> <tr> <td>2</td> <td>Tier 2</td> <td>ARB Level 1 VDECS</td> </tr> <tr> <td>3</td> <td>Tier 2</td> <td>Alternative Fuel*</td> </tr> </tbody> </table> <p>How to use the table: If the requirements of (A)(1)(b) cannot be met, then the project sponsor would need to meet Compliance Alternative 1. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 1, then Compliance Alternative 2 would need to be met. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 2, then Compliance Alternative 3 would need to be met.</p> <p>* Alternative fuels are not a VDECS.</p>	Compliance Alternative	Engine Emission Standard	Emissions Control	1	Tier 2	ARB Level 2 VDECS	2	Tier 2	ARB Level 1 VDECS	3	Tier 2	Alternative Fuel*	
Compliance Alternative	Engine Emission Standard	Emissions Control													
1	Tier 2	ARB Level 2 VDECS													
2	Tier 2	ARB Level 1 VDECS													
3	Tier 2	Alternative Fuel*													

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-3 <i>Continued</i>		<ol style="list-style-type: none"> <li data-bbox="1024 418 1745 670">2. The project sponsor shall require the idling time for off-road and on-road equipment be limited to no more than two minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment. Legible and visible signs shall be posted in multiple languages (English, Spanish, Chinese) in designated queuing areas and at the construction site to remind operators of the two minute idling limit. <li data-bbox="1024 678 1745 768">3. The project sponsor shall require that construction operators properly maintain and tune equipment in accordance with manufacturer specifications. <li data-bbox="1024 776 1745 1190">4. The Plan shall include estimates of the construction timeline by phase with a description of each piece of off-road equipment required for every construction phase. Off-road equipment descriptions and information may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For VDECS installed: technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, reporting shall indicate the type of alternative fuel being used. <li data-bbox="1024 1198 1745 1383">5. The Plan shall be kept on-site and available for review by any persons requesting it and a legible sign shall be posted at the perimeter of the construction site indicating to the public the basic requirements of the Plan and a way to request a copy of the Plan. The project sponsor shall provide copies of Plan to members of the public as requested. 	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-3 Continued		<p>A. <i>Reporting.</i> Quarterly reports shall be submitted to the ERO indicating the construction phase and off-road equipment information used during each phase including the information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.</p> <p>Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities. The final report shall indicate the start and end dates and duration of each construction phase. For each phase, the report shall include detailed information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.</p> <p>B. <i>Certification Statement and On-site Requirements.</i> Prior to the commencement of construction activities, the project sponsor must certify (1) compliance with the Plan, and (2) all applicable requirements of the Plan have been incorporated into contract specifications.</p>	
	S	<p><u>M-AQ-3b:</u> Diesel Backup Generator and Fire Pump Specifications. To reduce the health risk associated with operation of the Office Scheme or Residential Scheme, the project sponsor shall implement the following measure:</p> <p>A. All new diesel backup generators and fire pumps shall have:</p> <ol style="list-style-type: none"> 1. Engines that meet or exceed California Air Resources Board (ARB) Tier 2 off-road emission standards, and 2. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDES). <p>B. All new diesel backup generators and fire pumps shall have an annual maintenance testing limit of 20 hours, if feasible, and up to a maximum of 30 hours per engine.</p>	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
AQ-3 <i>Continued</i>		C. For each new diesel backup generator or fire pump permit submitted for the project, including any associated generator pads, engine and filter specifications shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a permit for the generator or fire pump from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators and VDECS shall be maintained in good working order in perpetuity and any future replacement of the diesel backup generators, fire pumps, and Level 3 VDECS filters shall be required to be consistent with these emissions specifications. The operator of the facility shall maintain records of the testing schedule for each diesel backup generator and fire pump for the life of that diesel backup generator and fire pump and provide this information for review to the Planning Department within three months of requires for such information.	

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>AQ-4:</u> The Office Scheme or Residential Scheme could expose onsite sensitive receptors to substantial air pollutant concentrations through generation of and by locating sensitive receptors near sources of toxic air contaminants.</p>	S	<p><u>M-AQ-4:</u> Enhanced Ventilation Measures. To reduce the health risk associated with toxic air contaminants from roadways and stationary sources, the project sponsor shall implement the following:</p> <ul style="list-style-type: none"> • <i>Air Filtration and Ventilation Requirement for Sensitive Land Uses.</i> Prior to receipt of any certificate of occupancy, the project sponsor shall submit an enhanced ventilation plan for the proposed building(s). The enhanced ventilation plan shall be prepared and signed by, or under the supervision of, a licensed mechanical engineer or other individual authorized by the California Business and Professions Code Sections 6700-6799. The enhanced ventilation plan shall show that the building ventilation system will be capable of achieving protection from particulate matter (PM2.5) equivalent to that associated with a Minimum Efficiency Reporting Value (MERV) 13 filtration, as defined by the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) standard 52.2. The enhanced ventilation plan shall explain in detail how the project will meet the MERV-13 performance standard identified in this measure. • <i>Maintenance Plan.</i> Prior to receipt of any certificate of occupancy, the project sponsor shall present a plan that ensures ongoing maintenance for the ventilation and filtration systems. • <i>Disclosure to Buyers and Renters.</i> The project sponsor shall also ensure the disclosure to buyers (and renters) that the building is located in an area within existing sources of air pollution and as such, the building includes an air filtration and ventilation system designed to remove 80 percent of outdoor particulate matter and shall inform occupants of the proper use of the installed filtration system. 	LTS

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>AQ-5</u> : The Office Scheme or Residential Scheme would not conflict with implementation of the Bay Area 2010 Clean Air Plan.	LTS	None required.	NA
<u>AQ-6</u> : The Office Scheme or Residential Scheme would not create objectionable odors that would affect a substantial number of people.	LTS	None required.	NA
<u>C-AQ-1</u> : The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts.	SU	Implement Mitigation Measure M-AQ-2.	SUM
<u>C-AQ-2</u> : The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative health risk impacts on sensitive receptors.	S	Implement Mitigation Measures M-AQ-3a, M-AQ-3b, and M-AQ-4.	LTS
Wind and Shadow			
<u>WS-1a</u> : The Office Scheme would not alter wind in a manner that substantially affects public areas within the vicinity of the project site.	LTS	None required.	NA
<u>WS-1b</u> : The Residential Scheme would not alter wind in a manner that substantially affects public areas within the vicinity of the project site.	LTS	None required.	NA
<u>WS-2a</u> : The Office Scheme would create new shadow that could adversely affect outdoor recreation facilities or other public areas within the project site vicinity.	LTS	None required.	NA
<u>WS-2b</u> : The Residential Scheme would create new shadow that could adversely affect outdoor recreation facilities or other public areas within the project site vicinity.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>C-WS-1</u> : The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future projects, would not alter wind in a manner that substantially affects public areas within the vicinity of the project site.	LTS	None required.	NA
<u>C-WS-2</u> : The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future projects, would create new shadow that could adversely affect outdoor recreation facilities or other public areas within the project site vicinity.	LTS	None required.	NA
Public Services and Recreation			
<u>PS-1a</u> : The increased employee and residential population associated with the proposed project's Office Scheme would not increase demand for fire services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>PS-1b</u> : The increased employee and residential population associated with the proposed project's Residential Scheme would not increase demand for fire services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>PS-2a</u> : The increased employee and residential population associated with the proposed project's Office Scheme would not increase demand for police services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>PS-2b</u> : The increased employee and residential population associated with the proposed project's Residential Scheme would not increase demand for police services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>PS-3a</u> : The increased employee and residential population associated with the proposed project's Office Scheme would not increase demand for parks and open space service to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>PS-3b</u> : The increased employee and residential population associated with the proposed project's Residential Scheme would not increase demand for parks and open space service to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>PS-4a</u> : The increased employee and residential population associated with the proposed project's Office Scheme would not increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities would occur or be accelerated.	LTS	None required.	NA
<u>PS-4b</u> : The increased employee and residential population associated with the proposed project's Residential Scheme would not increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities would occur or be accelerated.	LTS	None required.	NA
<u>PS-5a</u> : Construction of open space and recreational facilities associated with the proposed project's Office Scheme would not result in a significant effect on the environment.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>PS-5b</u> : Construction of open space and recreational facilities associated with the proposed project's Residential Scheme would not result in a significant effect on the environment.	LTS	None required.	NA
<u>PS-6a</u> : The proposed project's Office Scheme would not physically degrade existing recreational facilities.	LTS	None required.	NA
<u>PS-6b</u> : The proposed project's Residential Scheme would not physically degrade existing recreational facilities.	LTS	None required.	NA
<u>PS-7a</u> : The proposed project's Office Scheme would not increase demand for library services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>PS-7b</u> : The proposed project's Residential Scheme would not increase demand for library services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services.	LTS	None required.	NA
<u>C-PS-1</u> : The proposed project's Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in adverse physical impacts associated with the provision of, or need for, new or physically altered governmental facilities, the construction of which could cause significant environmental effects, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, parks, and library services.	LTS	None required.	NA
<u>C-PS-2</u> : The proposed Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not contribute to cumulative effects related to recreational resources.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
Utilities and Service Systems			
<u>UT-1a</u> : Implementation of the Office Scheme would not require new or expanded water supply resources or entitlements or require construction of new water treatment facilities.	LTS	None required.	NA
<u>UT-1b</u> : Implementation of the Residential Scheme would not require new or expanded water supply resources or entitlements or require construction of new water treatment facilities.	LTS	None required.	NA
<u>UT-2a</u> : Implementation of the Office Scheme would not require the construction of new water delivery infrastructure to serve the project, the construction of which could cause significant environmental effects.	LTS	None required.	NA
<u>UT-2b</u> : Implementation of the Residential Scheme would not require the construction of new water delivery infrastructure to serve the project, the construction of which could cause significant environmental effects.	LTS	None required.	NA
<u>UT-3a</u> : Implementation of the Office Scheme would not exceed treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new stormwater or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LTS	None required.	NA
<u>UT-3b</u> : Implementation of the Residential Scheme would not exceed treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new stormwater or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LTS	None required.	NA

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<u>UT-4a</u> : Implementation of the Office Scheme would not increase demand for electricity and natural gas to an extent that the demand for these resources would substantially increase, requiring the construction of new facilities.	LTS	None required.	NA
<u>UT-4b</u> : Implementation of the Residential Scheme would not increase demand for electricity and natural gas to an extent that the demand for these resources would substantially increase, requiring the construction of new facilities.	LTS	None required.	NA
<u>C-UT-1</u> : The proposed Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in adverse physical impacts associated with utilities and service systems.	LTS	None required.	NA

IMPROVEMENT MEASURES**Transportation and Circulation**

<u>TR-3</u> : The garage operations of the Office Scheme or Residential Scheme would not result in substantial conflicts that would adversely affect traffic, transit, bicycle, and pedestrian operations.	LTS	<u>I-TR-A</u> : Monitoring and Abatement of Queues As an improvement measure to reduce the potential for queuing of vehicles accessing the project site, it would be the responsibility of the owner/operator of the garage to ensure that recurring vehicle queues do not occur on Minna or Howard Streets adjacent to the site. A vehicle queue is defined as one or more vehicles (destined to the parking facility) blocking any portion of the sidewalk or travel lanes for a consecutive period of three minutes or longer on a daily and/or weekly basis.	NA
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Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
I-TR-A <i>Continued</i>		If the Planning Director, or his or her designee, suspects that a recurring queue is present, the Planning Department would notify the project sponsor in writing. Upon request, the owner/operator would hire a qualified transportation consultant to evaluate the conditions at the site for no less than seven days. The consultant would prepare a monitoring report to be submitted to the Planning Department for review. If the Planning Department determines that a recurring queue does exist, the facility owner/operator of the garage would have 90 days from the date of the written determination to abate the queue.	
<u>TR-7</u> : The Office Scheme or Residential Scheme would result in a significant impact at the east crosswalk and southeast corner of the intersection of Fifth/Mission Streets, but otherwise would not result in substantial overcrowding on public sidewalks, nor create potentially hazardous conditions for pedestrians, or otherwise substantially interfere with pedestrian accessibility to the site and adjoining areas.	S	<u>I-TR-B</u> : Installation of Eyebolts As an improvement measure to reduce pole clutter and to support the overhead wire system on Mission Street, the project sponsor could review with SFMTA whether it would be appropriate to install eyebolts in the new buildings.	LTS with M-TR-7

Table S-1: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the EIR

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
<p><u>TR-8</u>: The loading demand of the Office Scheme or Residential Scheme would be accommodated within the existing and proposed on-street and off-street loading spaces, and would not create potentially hazardous conditions or significant delays for traffic, transit, bicyclists or pedestrians.</p>	LTS	<p><u>L-TR-C</u>: Driveway and Loading Operations Plan (DLOP)</p> <p>As an improvement measure to reduce potential conflicts between driveway operations, including loading activities, and pedestrians, bicycles and vehicles on Howard and Minna Streets, the project sponsor could prepare a DLOP, and submit the plan for review and approval by the Planning Department and the SFMTA. As appropriate, the DLOP could be periodically reviewed by the sponsor, the Planning Department and SFMTA and revised if feasible to more appropriately respond to changes in street or circulation conditions.</p>	NA

Legend:

NI No impact

LTS Less than significant or negligible impact; no mitigation required

S Significant

SU Significant and unavoidable adverse impact; no feasible mitigation

SUM Significant and unavoidable adverse impact, after mitigation

Source: LSA Associates, Inc., 2014.

Table S-2: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the Initial Study

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
Hazards and Hazardous Materials			
<p><u>HZ-1</u>: The proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or reasonably foreseeable accident conditions involving the release of materials into the environment.</p>	S	<p><u>M-HZ-1</u>: The following actions shall be implemented by the project sponsor:</p> <p><i>Evaluation of Subsurface Conditions.</i> The project sponsor shall initiate compliance with, and ensure that the project fully complies with, Article 22A of the San Francisco Health Code. Per Article 22A, a site history report shall be prepared, and if appropriate, a soil investigation, soil analysis report, site mitigation plan, and certification report shall also be prepared. If the presence of hazardous materials is indicated, a site health and safety plan shall also be required. The soil analysis report shall be submitted to DPH. If required on the basis of the soil analysis report, a site mitigation plan shall be prepared to: 1) assess potential environmental and health and safety risks; 2) recommend cleanup levels and mitigation measures, if any are necessary, that would be protective of workers and visitors to the property; 3) recommend measures to mitigate the risks identified; 4) identify appropriate waste disposal and handling requirements; and 5) present criteria for on-site reuse of soil. The recommended measures shall be completed during construction. Upon completion, a certification report shall be prepared and submitted to DPH documenting that all mitigation measures recommended in the site mitigation report have been completed and that completion of the mitigation measures has been verified through follow-up soil sampling and analysis, if required. The evaluation shall also be submitted to the Planning Department to become part of the case file.</p>	LTS

Table S-2: Summary of Impacts, Mitigation Measures and Improvement Measures Identified in the Initial Study

Environmental Impacts	Level of Significance Without Mitigation	Mitigation/Improvement Measures	Level of Significance With Mitigation
HZ-1 <i>Continued</i>		<i>Evaluation of Mold in Dempster Printing Building.</i> Prior to renovation of the Dempster Printing Building, the project sponsor shall ensure that the building is evaluated by a Certified Building Inspector, and if the inspector determines mitigation is required, it shall be implemented by a Certified Building Inspector with confirmation that the mitigation is complete (and no mold hazards exist) by a Certified Industrial Hygienist.	

Legend:

LTS Less than significant or negligible impact; no mitigation required

S Significant

Source: LSA Associates, Inc., 2014.

I. INTRODUCTION

PURPOSE OF THE EIR

This Environmental Impact Report (EIR) analyzes potential physical environmental effects associated with implementation of the proposed Fifth and Mission Project, known herein as the 5M Project (project). The proposed mixed-use project would entail development of office, retail, residential, cultural, educational, and open space uses in the southwest quadrant of Fifth and Mission Streets in Downtown San Francisco. Two project options (with substantially the same overall gross square footage but with a varying mix of residential and office uses) are considered in the EIR; these are referred to as the “Office Scheme” and “Residential Scheme.” Please refer to Chapter II for a detailed project description.

This EIR has been prepared to inform City and County of San Francisco (City) decision-makers, responsible agencies and the general public of the proposed project and the potential physical environmental consequences of project implementation. This EIR also examines alternatives to the proposed project and identifies mitigation measures to reduce or avoid potentially significant physical impacts.

ENVIRONMENTAL REVIEW

The San Francisco Planning Department, serving as Lead Agency responsible for administering the environmental review for the proposed project, prepared an Initial Study and found that preparation of an EIR was required.

The California Environmental Quality Act (CEQA) requires that, before a decision can be made to approve a project that could result in adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document for use

by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, to recommend mitigation measures to lessen or eliminate significant adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR must be reviewed and considered by the Planning Commission, Board of Supervisors, and other approving bodies prior to a decision to approve, disapprove, or modify the project.

CEQA requires that agencies shall neither approve nor implement a project unless the project's significant environmental effects have been reduced to a less-than-significant level, essentially "eliminating, avoiding, or substantially lessening" the potentially significant impacts, except when certain findings are made. If an agency approves a project that will result in the occurrence of significant adverse impacts that cannot be mitigated to less-than-significant levels, the agency must state the reasons for its action in writing, demonstrate that its action is based on the EIR or other information in the record, and adopt a Statement of Overriding Considerations.

The project sponsor, Forest City Residential Development, Inc., filed an initial application on February 2, 2012, for the environmental evaluation of the proposed project. The project described in the application would have resulted in the retention and renovation of the Chronicle Building and rehabilitation of the Dempster Printing Building, the demolition of six existing buildings on the site, and the construction of five new buildings. Buildings would have ranged up to 400 feet in height and contained approximately 1,850,100 gsf of new and existing active ground floor uses (arts/cultural/educational), office, and residential uses. An Initial Study was prepared that identified the environmental issues that would be addressed in the EIR and the environmental issues that could be excluded from any further detailed analysis.

On January 30, 2013, the City sent a Notice of Preparation (NOP) of an EIR to governmental agencies and organizations and persons interested in the project. The Initial Study and NOP are included as Appendix A of this EIR. Preliminary analysis included in the Initial Study indicated the project site and vicinity are prone to strong winds (primarily due to the preponderance of lower-scale buildings to the north and west of the site) and that the project as described in the Initial Study may generate

hazardous wind conditions.¹ Between March 2013 and July 2013, the project was revised (as part of an iterative process involving real-time wind tunnel analysis) to reduce potential wind exceedances. The design described in this EIR is largely consistent with the original square footages and building envelopes; however, project revisions include an internal relocation of buildings, adjustments to height, and the inclusion of architectural elements designed to reduce ground-level winds.² In addition, to allow for flexibility to respond to market demands and conditions, the project sponsor has since proposed two potential options for development of the project which consider a varying mix of residential and office uses. Because the modified project is substantially similar to the project described in the NOP and Initial Study, and an EIR would be prepared for the project, the City determined that the NOP did not need to be re-circulated for public review. In addition, the Initial Study did not scope out any topics that would now be associated with significant impacts as a result of modifications to the project (see CEQA Checklist Update on pages 641 and 642 of Chapter VI, Other CEQA Considerations).

The NOP requested agencies and other interested parties to comment on environmental issues that should be addressed in the EIR. The comment letters received in response to the Initial Study and NOP are available for review as part of Case File No. 2011.0409E. In addition, the Planning Department held a public scoping meeting on February 20, 2013, at 925 Mission Street, consistent with *CEQA Guidelines 15082(c)*. Verbal comments were received at the scoping meeting and a transcript of this meeting is available for review as part of Case File No. 2011.0409E.

In general, comments on the NOP and comments received at the public scoping meeting requested that the EIR analyze the following issues, which are addressed in the identified EIR and/or Initial Study sections:

¹ As defined in Planning Code Section 148.

² Forest City, *Project Description Revisions*, July 31, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

- Provision of affordable housing (Chapter IV.C, Population and Housing)
- Increases in traffic and changes to circulation patterns (Chapter IV.E, Transportation and Circulation, of the EIR)
- Pedestrian safety (Chapter IV.E, Transportation and Circulation, of the EIR)
- Provision of parks and open space (Chapter IV.I, Public Services and Recreation, of the EIR)
- Conflicts with existing land uses, including residential land uses (Chapter IV.A, Land Use, of the EIR)
- Impacts to wind and shadow patterns (Chapter IV.H, Wind and Shadow, of the EIR)
- Construction period impacts related to transportation, noise, and vibration (Chapters IV.E, Transportation and Circulation, and IV.F, Noise, of the EIR)

As noted in Summary, the proposed project is subject to Public Resources Code section 21099(d)(1), which eliminates aesthetics and parking as impacts that can be considered in determining the significance of physical environmental effects under CEQA for projects meeting certain criteria. Accordingly, this EIR does not contain a separate discussion of the topic of aesthetics. The EIR nonetheless provides visual simulations for informational purposes as part of Chapter II, Project Description. Furthermore, this EIR discusses parking in Section IV.D, Transportation and Circulation, for informational purposes only. (See page 120 of Chapter IV, Environmental Setting and Impacts, for further discussion of Public Resources Code Section 21099.)

The Planning Department has considered the comments made by the public in preparation of the Draft EIR for the proposed project. This Draft EIR will be circulated for public review and comment. During this period, written comments concerning the accuracy and adequacy of the Draft EIR will be accepted and a public hearing will be held before the Planning Commission to receive oral comments. After the close of the public comment period, written responses will be prepared to address substantive comments received on the environmental analysis, and any revisions to the Draft EIR will

be identified. The Comments and Responses document and the Draft EIR together will constitute the Final EIR. The Final EIR will be presented to the Planning Commission, at an advertised public hearing, for certification.

INTENDED USES OF THIS EIR

As described by CEQA and in the *CEQA Guidelines*, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non-environmental characteristics.

This EIR is intended as an informational document to: evaluate the proposed project and the potential for significant impacts on the environment; examine methods of reducing adverse environmental impacts; identify any significant and unavoidable adverse impacts that cannot be mitigated; and identify reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental effects or reduce the impacts to a less-than-significant level. The Lead Agency is required to consider the information in the EIR, along with any other relevant information, in making its decisions on the proposed project. This analysis, in and of itself, does not determine whether a project will be approved, but aids the planning and decision-making process by disclosing the potential for significant and adverse impacts.

In conformance with CEQA and the *CEQA Guidelines*, this EIR provides objective information addressing the environmental consequences of the project and identifies possible means of reducing or avoiding significant impacts, either through mitigation measures or feasible project alternatives. The City and County of San Francisco must certify the Final EIR prior to acting on the project approval application for the proposed 5M Project. Under *CEQA Guidelines* Section 15161, this is a project-level EIR. This most common type of EIR examines the environmental impacts of a project and focuses primarily on changes in the environment that would result from project development. This type of EIR examines all phases of a project including planning, construction, and operation.

The *CEQA Guidelines* help define the role and standards of this EIR, as follows:

- **Information Document.** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency (*CEQA Guidelines* Section 15121(a)).
- **Degree of Specificity.** The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. An EIR on a development project will necessarily be more detailed in its discussion of specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy (*CEQA Guidelines* Section 15146(a)).
- **Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (*CEQA Guidelines* Section 15151).

Section 15382 of the *CEQA Guidelines* defines a significant effect on the environment as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project...” Therefore, in identifying the significant impacts of the project, this EIR focuses on the substantial physical effects and mitigation measures to avoid, reduce, or otherwise alleviate those effects.

ORGANIZATION OF THE DRAFT EIR

This Draft EIR has been organized as follows:

- *Summary:* This chapter summarizes the EIR by providing a concise overview of the project, including associated approvals; the environmental impacts that would result from the project; mitigation measures identified to reduce or eliminate these impacts; and project alternatives.
- *Chapter I – Introduction:* This chapter includes a discussion of the environmental review process; a summary of the comments received on the scope of the EIR; and the organization of the EIR.
- *Chapter II – Project Description:* This chapter discusses the background and objectives of the proposed project; provides background data on the project location; describes the operational and physical characteristics of the project; and identifies project approvals.
- *Chapter III – Plans and Policies:* This chapter provides a summary of the plans, policies, and regulations of the City and County of San Francisco that are applicable to the proposed project.
- *Chapter IV – Environmental Setting and Impacts:* This chapter describes the project’s existing setting, environmental impacts, cumulative impacts, and mitigation measures. Each environmental topic is discussed in a separate section within this chapter, as follows:
 - A. Land Use
 - B. Population and Housing
 - C. Cultural and Paleontological Resources
 - D. Transportation and Circulation
 - E. Noise
 - F. Air Quality
 - G. Wind and Shadow

H. Public Services and Recreation

I. Utilities and Service Systems

- *Chapter V – Other CEQA Considerations:* This chapter describes growth inducement that would result from the proposed project; summarizes the significant environmental effects that cannot be mitigated to a less-than-significant level; describes significant irreversible changes that would result if the project is implemented; and lists any areas of controversy left to be resolved. This chapter also includes a summary of the less-than-significant effects (with and without mitigation) that were identified in the Initial Study and includes an analysis of how those conclusions would or would not change with modifications to the project that have occurred since its publication.
- *Chapter VI – Alternatives:* This chapter presents alternatives to the proposed project, including the No Project Alternative; Code Compliant Alternative; Unified Zoning Alternative; and Preservation Alternative, as well as other alternatives considered but rejected as infeasible. In addition, the environmentally superior alternative is identified.
- *Chapter VII – Report Preparers:* This chapter identifies preparers of the EIR, the references used, and persons and organizations contacted during preparation of the EIR.
- *Appendices:* Appendices include the Notice of Preparation and Initial Study (Appendix A).

PUBLIC PARTICIPATION

The *CEQA Guidelines* and Chapter 31 of the San Francisco Municipal Code encourage public participation in the planning and environmental review processes. The City will provide opportunities for the public to present comments and concerns regarding the CEQA and planning processes. These opportunities will occur during the Draft EIR public review and comment period and public hearings before the San Francisco Planning Commission.

The Draft EIR and Notice of Availability (NOA) are posted electronically on the City's website (<http://www.sf-planning.org/index.aspx?page=1828>) and hard copies are available for public review

by request at the Planning Information Center, 1650 Mission Street, San Francisco. Written public comments may be submitted to the Planning Department during the specified public review and comment period (indicated on the cover of this EIR), and oral comments may be presented at the Draft EIR public hearing before the Planning Commission. Written comments should be sent to: Environmental Review Officer, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

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II. PROJECT DESCRIPTION

PROJECT OVERVIEW

The proposed Fifth and Mission Project, known herein as the 5M Project (project), is a mixed-use project proposed by Forest City Residential Development, Inc. (project sponsor). The proposed project would entail development of office, retail, residential, cultural, educational, and open space uses on an approximately 4-acre site in the southwest quadrant of Fifth and Mission Streets in Downtown San Francisco. The project would result in the retention and renovation/rehabilitation of two buildings (the Chronicle Building at 901-933 Mission Street, constructed in 1924, and the Dempster Printing Building at 447-449 Minna Street, constructed in 1907), the demolition of six existing buildings (plus a two-story above-ground connector between 901 Mission and 110 Fifth Streets), and the construction of four new buildings (plus an above-ground connector between two buildings) on the site. The project also proposes changes to existing development controls for the site (including increases in permitted height and bulk) through General Plan, Planning Code, and Zoning Map text amendments, including a Special Use District (SUD), together with detailed design standards and guidelines for project development established through a Design for Development (D4D) document. Buildings would range in height from approximately 50 feet to 470 feet (including non-occupiable rooftop architectural features). Two project options (with substantially the same overall gross square footage but with a varying mix of residential and office uses) are considered in the EIR; these are referred to as the "Office Scheme" and "Residential Scheme," and are described in more detail below.

PROJECT SPONSOR'S OBJECTIVES

According to the project sponsor, the proposed project is intended to provide a distinct mixed-use development with office, retail, residential, cultural, educational, and open space uses focused on supporting and retaining the next generation of the region's knowledge-based technology industry in

San Francisco, and on providing a shared district for uses such as co-working, media, arts, and small-scale urban manufacturing. The project sponsor's key objectives are to:

1. Develop a mixed-use project containing residential, commercial, and flexible retail/office/cultural/educational space in Downtown San Francisco.
2. Leverage the site's central location and close proximity to major regional and local public transit by building a dense mixed-use project that allows people to work and live close to transit.
3. Develop buildings in a manner that reflects the project's location at the intersection of the Downtown core and South of Market Area (SoMa) through urban design features such as incorporating heights and massing at varying scales; orienting tall buildings toward the Downtown core; maintaining a strong streetwall along exterior streets; and utilizing mid-rise buildings to provide appropriate transitions to larger buildings.
4. Create a dense commercial center that includes floorplates large enough to provide the flexible and horizontally-connected workplaces through a continuum of floorplate sizes for a range of users; substantial new on-site open space; and sufficient density to support and activate the new ground floor uses and open space in the project.
5. Help meet the job creation goals established in the City's Economic Strategy¹ by generating new employment opportunities in the knowledge economy and stimulating job creation across all sectors.
6. Construct high-quality housing with sufficient density to contribute to 24-hour activity on the project site while offering a mix of unit types, sizes, and levels of affordability to accommodate a range of potential residents.
7. Facilitate a vibrant, interactive ground plane for project and neighborhood residents, commercial users, and the public, with public spaces that can accommodate a variety of events and programs, and adjacent ground floor building spaces that include elements

¹ City and County of San Francisco, Office of Economic and Workforce Development, *Economic Development Strategy*, 2007 and 2012. Website: oewd.org/About-MOEWD-Major-Initiatives.aspx.

such as transparent building frontages and large, direct access points to maximize circulation between and cross-activation of interior and exterior spaces.

8. Establish a pedestrian-oriented project with well-designed streets, alleys, and public spaces generally in accordance with the City's Better Streets Plan.
9. Retain the Chronicle Building (901-933 Mission Street) and Dempster Printing Building (447-449 Minna Street) as cultural markers on the site.
10. Promote sustainability at the site, building, and user level by incorporating Leadership in Energy and Environmental Design (LEED) or equivalent sustainability strategies.

PROJECT LOCATION AND SITE CHARACTERISTICS

The approximately 4-acre project site, which is located at the nexus of the SoMa, Downtown, and Mid-Market Street neighborhoods, is roughly bounded by Mission Street to the north; Fifth Street to the east; Howard Street to the south; and Mary Street and adjacent properties to the west.² **Figure II-1** shows the location of the project site and **Figure II-2** illustrates existing site conditions. The project site consists of 22 parcels and extends from the southwest quadrant of Fifth and Mission Streets south along Fifth Street to Howard Street, and west along Mission and Howard Streets to approximately the middle of the block. Mary, Minna and Natoma Streets are streets internal to the site.³ The project site is generally flat and is approximately 35 feet above mean sea level.⁴ The project site is within the vicinity of numerous public transit routes, including Bay Area Rapid Transit (BART), San Francisco Municipal Railway (MUNI), Golden Gate Transit, and SamTrans routes. Major transit hubs in the vicinity include the Powell Street BART/MUNI Station, located approximately 750 feet north of the project site,

² By convention, Mission Street and streets that parallel it, including Howard Street, are considered east-west streets, while numbered streets, such as Fifth and Sixth Streets, are considered north-south streets. The street grid surrounding the project site does not conform to the cardinal directions (north, east, south, and west), but the cardinal directions are used in this Project Description for ease of description.

³ Mary Street is considered an alley according to Section 102.1 of the San Francisco Planning Code, which is defined as a right-of-way, less than 30 feet in width, permanently dedicated to common and general use by the public.

⁴ Elevations reference San Francisco City Datum (SF Datum).



FIGURE II-1



 Project Boundary

SOURCES: GOOGLE MAPS; LSA ASSOCIATES, INC., 2012.

5M Project EIR
Project Site and Regional Location

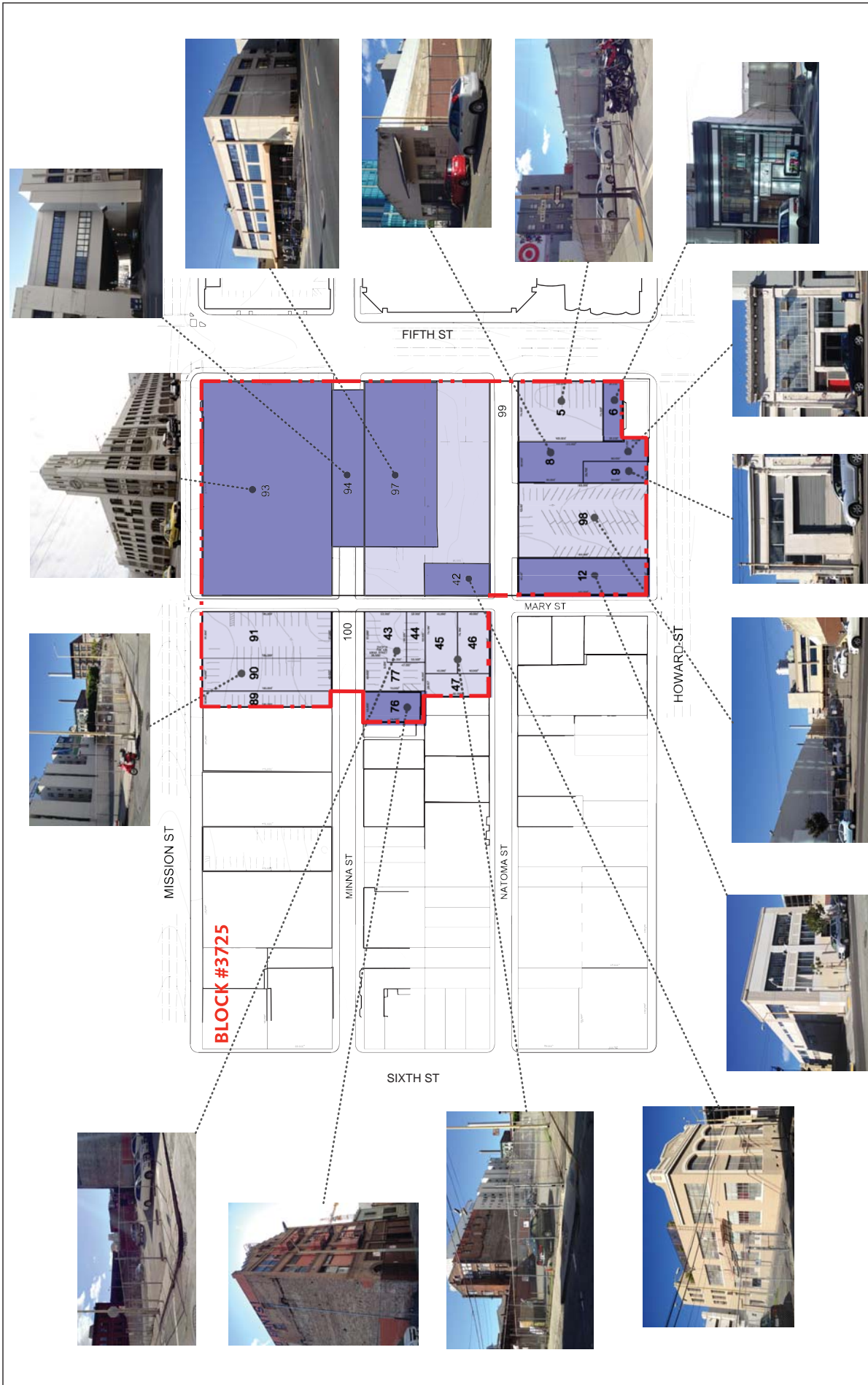


FIGURE II-2

5M Project EIR
Existing Site Conditions

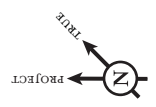
EXISTING SURFACE
PARKING LOTS

PROJECT BOUNDARY

EXISTING BUILDING

ASSASSOR BLOCK LOT NUMBER

94



NOT TO SCALE

SOURCE: FOREST CITY, OCTOBER 2012.

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and the MUNI Central Subway Project, which would extend along the Fourth Street corridor approximately 750 feet east of the project site. The Central Subway Project is currently under construction and anticipated for completion in 2018. The Central Subway stop nearest the project site would be located at the Moscone Center, on Fourth Street between Folsom and Howard Streets.

Currently, the project site contains eight buildings and seven surface parking lots with a total of approximately 256 parking spaces.⁵ The existing buildings on the site provide a total of approximately 317,700 gross square feet (gsf) of building space containing office and commercial uses.

No housing is located on the site. Office, cultural, and educational uses are currently accommodated within the existing buildings on the project site. Current tenants and organizations on the project site include the San Francisco Chronicle, Impact Hub, TechShop, SFMade, and Intersection for the Arts, as well as the San Francisco School of Digital Filmmaking (SFSDF), Off the Grid, Best Buddies and Yahoo!. **Table II-1** identifies the location and provides a brief description of the project site's existing properties. The assessor lot numbers in **Table II-1** correspond to the numbers in **Figure II-2**. Refer to **Table II-2** for a brief description of each organization on the project site.

PROJECT CHARACTERISTICS

Two project options are considered in this EIR: the Office Scheme and the Residential Scheme. Under both schemes, the proposed project would result in the construction of new active ground floor space (including office, retail, educational, and cultural uses), office use, residential dwelling units, and open space. Associated infrastructure and accessory vehicle and bicycle parking would also be developed to support these uses. The two options are similar in massing and propose the same land use on all parcels except Howard Street. Both schemes would retain and renovate the Chronicle Building (901-933 Mission Street), constructed in 1924, and rehabilitate the Dempster Printing Building (447-449 Minna Street), constructed in 1907, and entail demolition of all other buildings on the site and the construction of four new buildings with heights ranging from 195 to 470 feet.⁶

⁵ This includes approximately 36 spaces located outside of the project boundary that are owned by the project sponsor and used by occupants of buildings located on the project site.

⁶ Unless otherwise noted, heights denoted throughout the EIR reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.

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Table II-1: Existing Properties

Assessor Lot Number	Street Address	Construction Date	Use	Building Tenant	Existing Building Square Footage (gsf)	Other Information
5	172 Fifth Street	-	Surface Parking Lot	-	-	This 7,871-square-foot lot is currently developed as a surface parking lot and is surrounded by fencing.
6	190 Fifth Street (Zihn Building)	1924	Office	Build Inc.	1,900	This 1,873-square-foot lot is currently developed with a rectangular two-story reinforced concrete industrial building. The building front facing Fifth Street is a full two stories, but the rear section is one story. This building is known as the Zihn Building.
8	910 Howard Street (J.M. Kepner Building)	1922	Commercial/ Office Support	TechShop	6,100	This 6,089 square-foot lot is currently developed with a two-story reinforced concrete industrial building. This building is known as the J.M. Kepner Building.
9	912 Howard Street	1928	Light Industrial/ Office Support	TechShop	2,100	This 2,056-square-foot lot is currently developed with a one-story reinforced concrete industrial building.
12	924-926 Howard Street	1923	Office	TechShop, SFMade	15,200	This 7,596-square-foot lot is currently developed with a three-story office/commercial building.
42	430 Natoma Street (Camelline Building)	1923	Office	San Francisco Chronicle, IS Logistics	9,600	This 3,197 square-foot lot is currently developed with a rectangular two-story industrial building. There is a partial third story/penthouse at the northwest corner of the building.
43	435-439 Minna Street	-	Surface Parking Lot	-	-	This 3,105-square-foot lot is currently developed as a surface parking lot with Lot No. 44 and No. 77, and is surrounded by fencing.
44	44 Mary Street	-	Surface Parking Lot	-	-	This 1,437-square-foot lot is currently developed as a surface parking lot with Lot No. 43 and No. 77, and is surrounded by fencing.
45	50 Mary Street	-	Surface Parking Lot	-	-	This 3,044-square-foot lot is currently developed as a surface parking lot with Lot No. 46 and No. 47, and is surrounded by fencing.
46	432-438 Natoma Street	-	Surface Parking Lot	-	-	This 3,044-square-foot lot is currently developed as a surface parking lot with Lot No. 45 and No. 47, and is surrounded by fencing.
47	440 Natoma Street	-	Surface Parking Lot	-	-	This 2,253-square-foot lot is currently developed as a surface parking lot with Lot No. 45 and No. 46, and is surrounded by fencing.
76	447-449 Minna Street (Dempster Printing Building)	1907	Office/Commercial	Vacant	12,000	This 2,996 square-foot lot is currently developed with a four-story, brick industrial loft building.
77	441-445 Minna Street	-	Surface Parking Lot	-	-	This 2,761-square-foot lot is currently developed as a surface parking lot with Lot No. 43 and No. 44, and is surrounded by fencing.
89	947-949 Mission Street	-	Surface Parking Lot	-	-	This 3,200-square-foot lot is currently developed as a surface parking lot with Lot No. 90 and No. 91, and is surrounded by fencing and an adjacent building.
90	941-945 Mission Street	-	Surface Parking Lot	-	-	This 6,400-square-foot lot is currently developed as a surface parking lot with Lot No. 89 and No. 91, and is surrounded by fencing and an adjacent building.
91	939 Mission Street	-	Surface Parking Lot	-	-	This 9,200-square-foot lot is currently developed as a surface parking lot with Lot No. 89 and No. 90, and is surrounded by fencing and an adjacent building.
93	901-933 Mission Street (Chronicle Building)	1924	Office	San Francisco Chronicle, Impact Hub, SFSDP, Best Buddies, Intersection for the Arts	178,700 (includes basement)	This 42,396-square-foot lot is currently developed with a three-story industrial building. The building is rectangular in plan and connects to 110 Fifth Street via a two-story pedestrian bridge over Minna Street. The building contains a five-story clock tower located at its northeast corner (the southwest quadrant of Fifth and Mission Streets). The building serves as the headquarters of the San Francisco Chronicle and contains a variety of office uses, including educational organizations.
94	425-433 Minna Street (Air Rights Parcel) ¹	1968	Office	Off the Grid ²	-	This 10,598-square-foot air rights parcel is currently developed with a two-story bridge located above Minna Street that connects the Examiner Building to the Chronicle Building. It was constructed on the air rights above Minna Street, and does not connect to the ground, allowing Minna Street to remain in use for vehicular traffic.
97	110 Fifth Street (Examiner Building)	1968	Office	Yahoo!	92,100	This 37,871-square-foot lot is currently developed with a three-story rectangular industrial building that is connected to the Chronicle Building via a two-story bridge over Minna Street (the buildings also connect via a subterranean level underneath Minna Street). An open loading dock runs across most of the south elevation at ground level. This building is known as the Examiner Building. The building was purchased by the San Francisco Chronicle and is occupied by Yahoo!
98	914-918 Howard Street	-	Surface Parking Lot	-	-	This 14,797-square-foot lot is currently developed as a surface parking lot and is surrounded by fencing and adjacent buildings.
99	Natoma Street (Air Rights Parcel)	-	-	-	-	10,800-square-foot air rights parcel above public rights-of-way.
100	Minna Street (Air Rights Parcel)	-	-	-	-	2,490-square-foot air rights parcel above public rights-of-way.

¹ Air rights are legally defined as parcels overlying the ground that the owner holds the right to use and occupy. Callies, David L. et al., *Cases and Materials on Land Use*, Callies, David L., 1999. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

² Off the Grid uses Minna Street between Fifth and Mary Streets for a bi-weekly market. Off the Grid is not a building tenant.

Note: gsf = gross square feet. All existing building numbers have been rounded to the nearest 100 gsf.

Sources: Forest City Residential Development, Inc., Architectural Resources Group, and City of San Francisco Planning Department, 2013.

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Table II-2: Major Existing Organizations on the Site

Organization	Current Location	Description
San Francisco Chronicle	901 Mission Street	The San Francisco Chronicle is a newspaper serving primarily the San Francisco Bay Area. The Chronicle Building serves as the headquarters for the newspaper.
Intersection for the Arts	925 Mission Street	Intersection for the Arts was established in 1965 and is San Francisco's oldest alternative non-profit art space. Intersection for the Arts presents experimental work in the fields of literature, theater, music and the visual arts, and provides service, technical support, and mentorship programs.
Impact Hub	901 Mission Street	The Impact Hub is located in the Chronicle Building and contains 20,000 gsf of collaborative work space that also hosts cultural events. The facility provides individual work stations, meeting and conference rooms, kitchens, and cafes. The Impact Hub includes Social Capital Markets (SOCAP), a core business unit of The Impact Hub that supports the growth of socially-driven market systems.
TechShop	926 Howard Street	TechShop is a facility that contains 17,000 gsf of workshop space and provides tools and machinery for its members. The facility provides workshop space, classrooms, a lounge, and a retail space. Some of the machinery and tools offered at TechShop include milling machines and lathes, laser cutters, a welding station, and sheet metal-working equipment.
SFMade	926 Howard Street	SFMade is a non-profit corporation that focuses on developing the local manufacturing sector and its workforce within San Francisco. SFMade works directly with local entrepreneurs and small companies and offers education, networking opportunities, and other programming.
San Francisco School of Digital Filmmaking (SFSDF)	925 Mission Street	SFSDF is located in the Chronicle Building and provides courses and workshops in digital filmmaking, film acting, and screenwriting. SFSDF facilities include classrooms, computer labs, film/production equipment, and studio rental space.
Off the Grid	Fifth and Minna Streets	Off the Grid is an organization of mobile food businesses, which operates a bi-weekly mobile food market on the project site. Off the Grid operates over 15 weekly food markets in the Bay Area and works with over 100 vendors.
Best Buddies	901 Mission Street	Best Buddies is an international non-profit organization focusing on establishing a global volunteer movement to create opportunities for one-to-one friendships, integrated employment, and leadership development for people with intellectual and developmental disabilities.
Yahoo!	110 Fifth Street	Yahoo! Is located in both the Examiner and Chronicle buildings, and is a nearly two-decade old Internet and media company with its main headquarters in Sunnyvale, California

Source: Forest City Residential Development, Inc., 2013.

The overall gross square footages are substantially the same between the two schemes, with a difference of about 20,000 gsf; however, the allocation of office and residential uses between the two schemes would vary by approximately 273,000 and 255,000 gsf, respectively. In general, this Project Description focuses on the Office Scheme, which represents the larger development envelope and more intensive use of the two schemes. However, elements of the Residential Scheme that differ from the Office Scheme are identified and described.

Both options would merge existing parcels on the project site and re-subdivide the property to accommodate the proposed development program, generally as shown in **Figure II-3**. **Figure II-4** is the

site plan that would be implemented under either project scheme and shows the configuration of proposed predominant land uses on the site. In the text and figures of this EIR, each proposed building is labeled with a letter prefix (e.g., M-#) indicating the approximate street that it fronts. M-# buildings are those that are located between Minna and Mission Streets; N-# buildings are those located between Natoma and Minna Streets; and H-# buildings are those located between Howard and Natoma Streets. **Figure II-5** shows structures to be retained or removed as part of the proposed project.

Figure II-6 depicts the illustrative massing for both project schemes. **Figures II-7, II-8, II-9, II-10, and II-11** show preliminary building elevations of the proposed project from the east, north, south, and west (note that southern elevations are provided along Minna and Howard Streets). **Figures II-12 and II-13** show representative cross sections of the project. These elevations and cross sections illustrate the Office Scheme, which would result in the higher density and larger building envelope of the two schemes.⁷ **Figures II-14, II-15, II-16, and II-17** show representative floorplate plans for the two schemes.

Under the Office Scheme, the completed project would include a total of 1,827,000 gsf of renovated existing buildings and new construction, comprising up to 871,900 gsf of office uses (554,200 gsf of net new office space); 802,500 gsf of residential uses (914 dwelling units); and 152,600 gsf of active ground floor uses.⁸ Up to 663 vehicle parking spaces would be provided in three subterranean levels. About 44,600 square feet of shared open space (including 34,450 square feet of privately-owned publicly-accessible open space) would be provided throughout the site.

⁷ Although the Office Scheme represents the maximum building envelope of the two schemes, the podium of Building H-1 would have a slightly larger massing adjacent to Mary Street under the Residential Scheme.

⁸ The exact mix of uses at the ground floor (including office, retail, educational, and cultural uses) is not yet known. For the purposes of the EIR analysis, the most conservative assumptions (i.e., those with the potential to result in the greatest environmental impacts) are used. Gross square footage includes most building areas above existing street grades and is calculated pursuant to Planning Code Section 102.9. Refer to Glossary for a list of facilities considered in gross square footage calculations. Refer to Section IV.D, Transportation and Circulation for additional assumptions related to site access and ground floor uses.

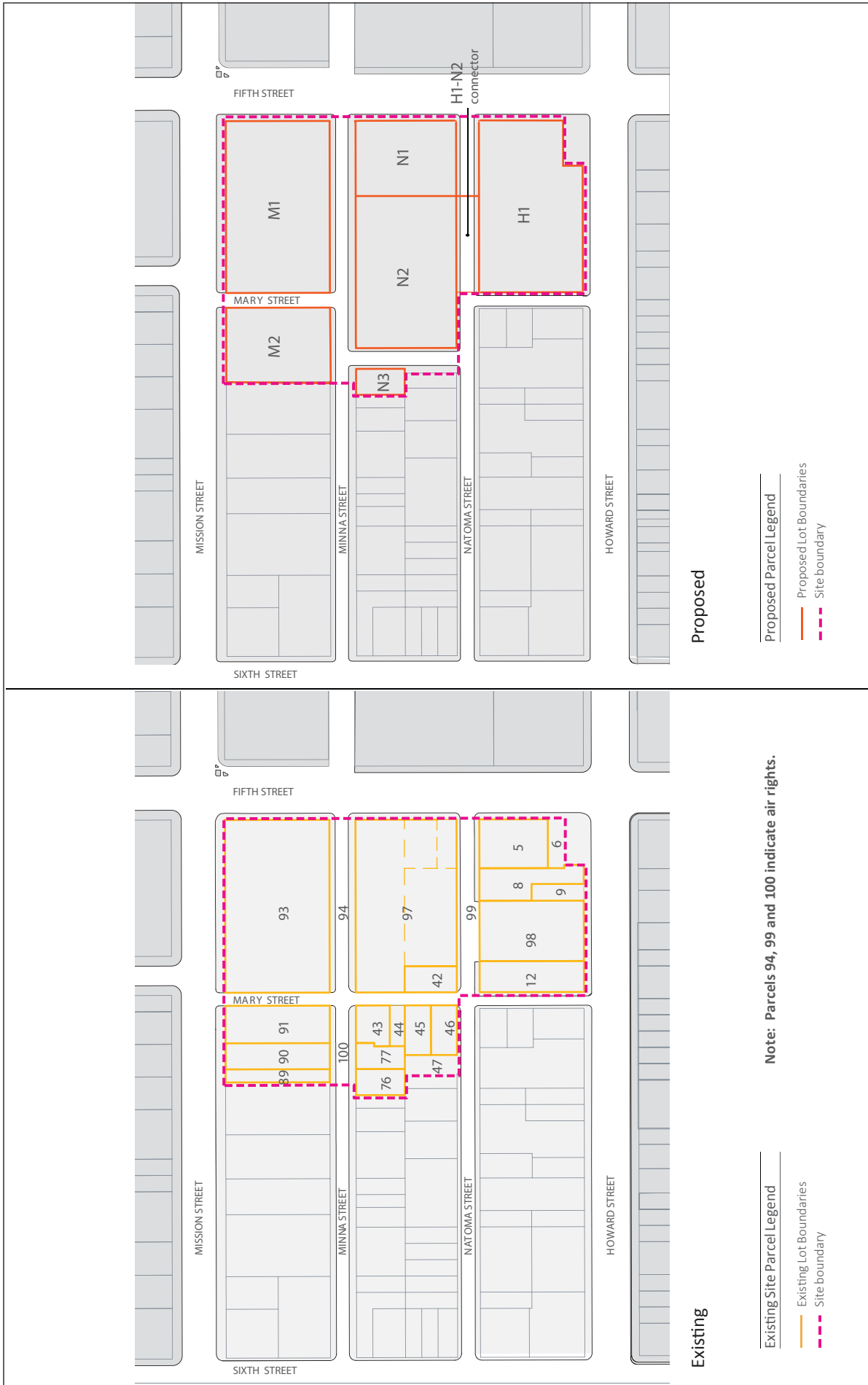
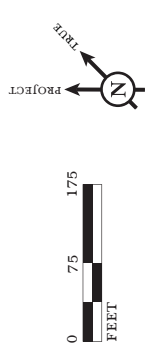


FIGURE II - 3



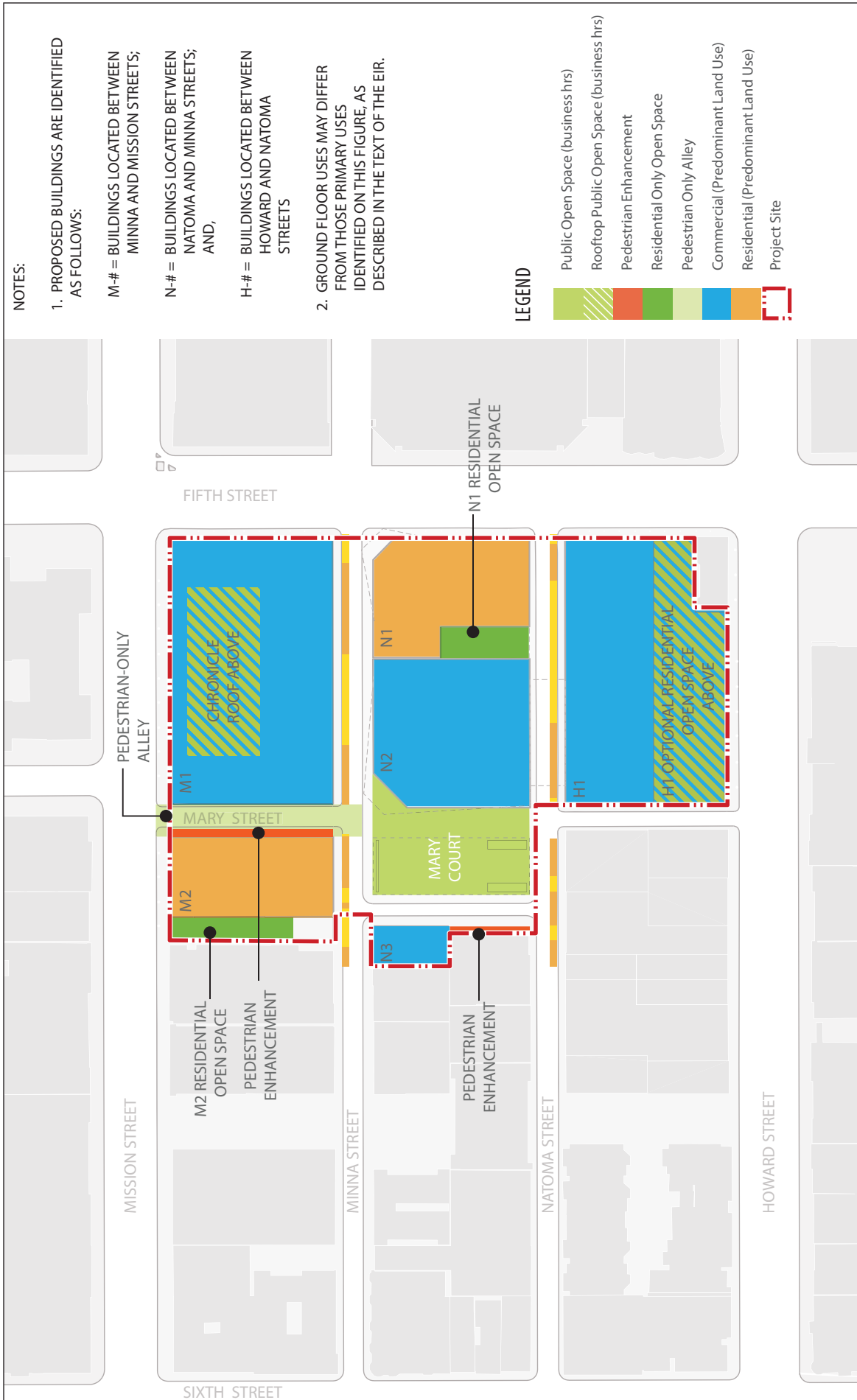
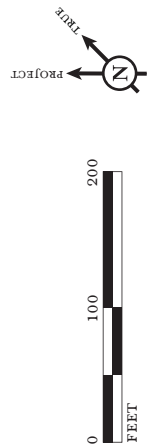


FIGURE II-4



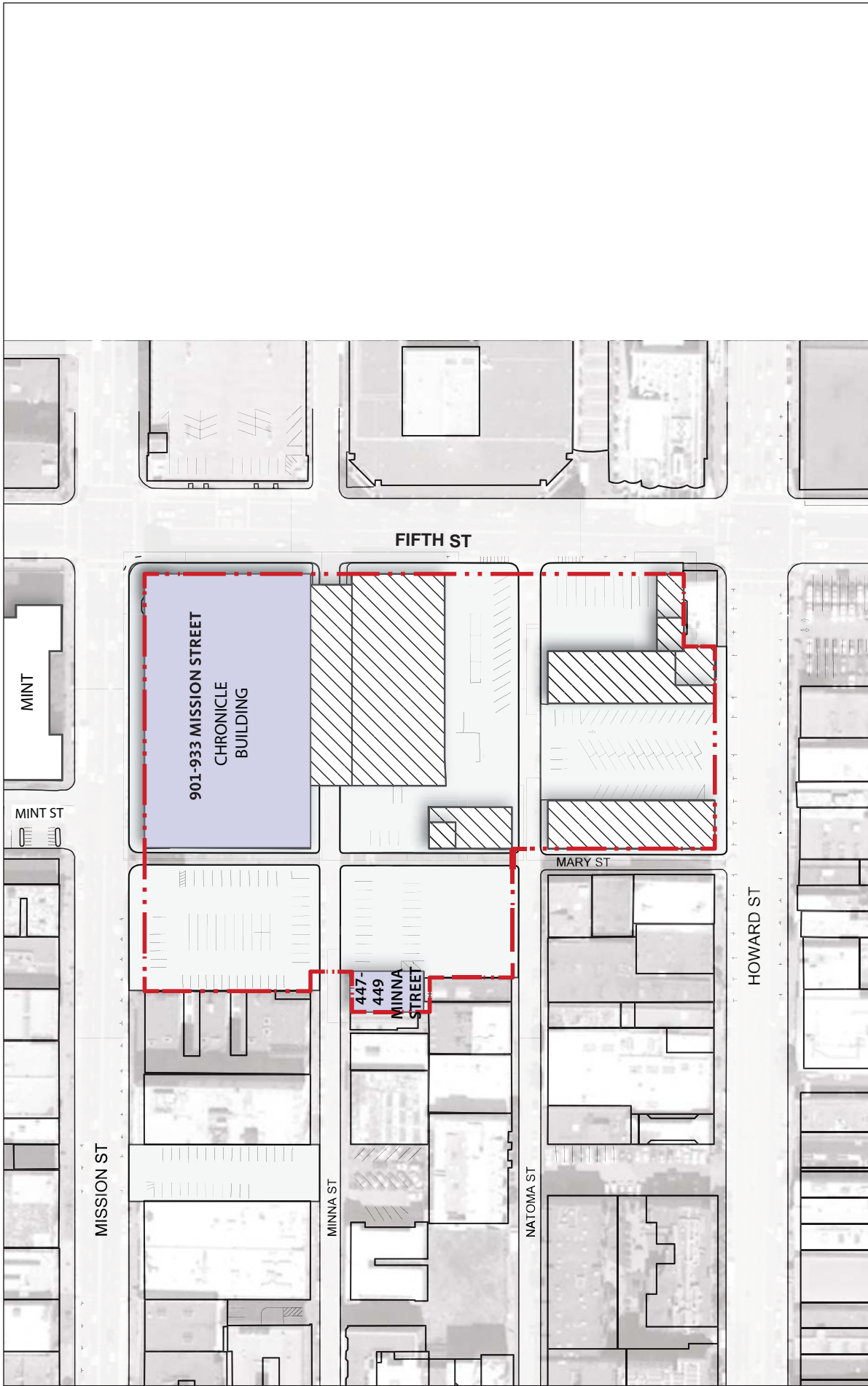



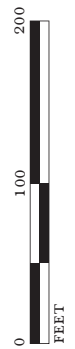
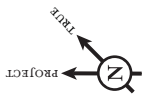


FIGURE II-5

5M Project EIR
Structures to be Retained and Removed

LEGEND

-  PROJECT BOUNDARY
-  STRUCTURES TO BE RETAINED, RENOVATED
-  STRUCTURES TO BE REMOVED



SOURCE: FOREST CITY, DECEMBER 2012.

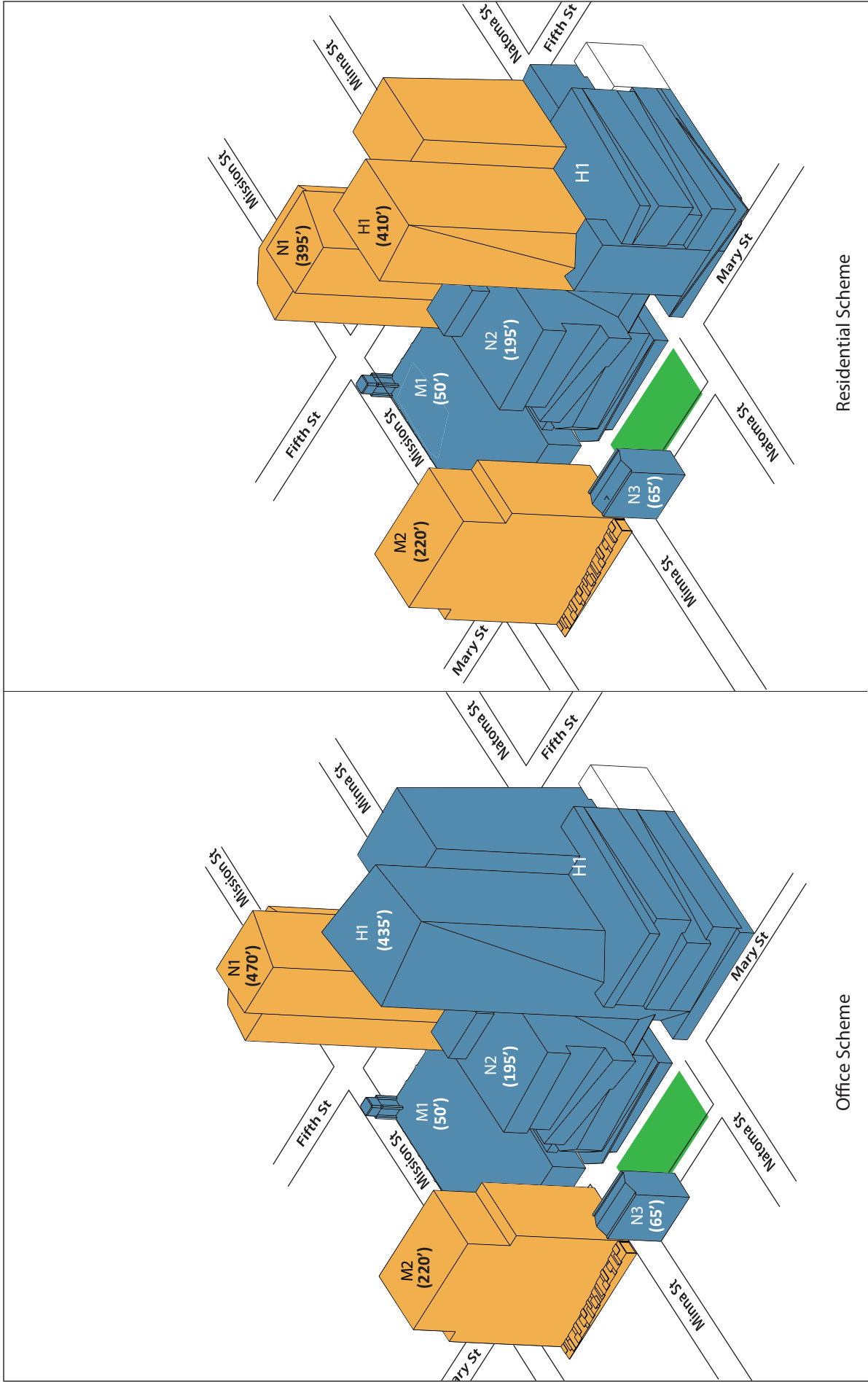


FIGURE II - 6

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.

NOT TO SCALE

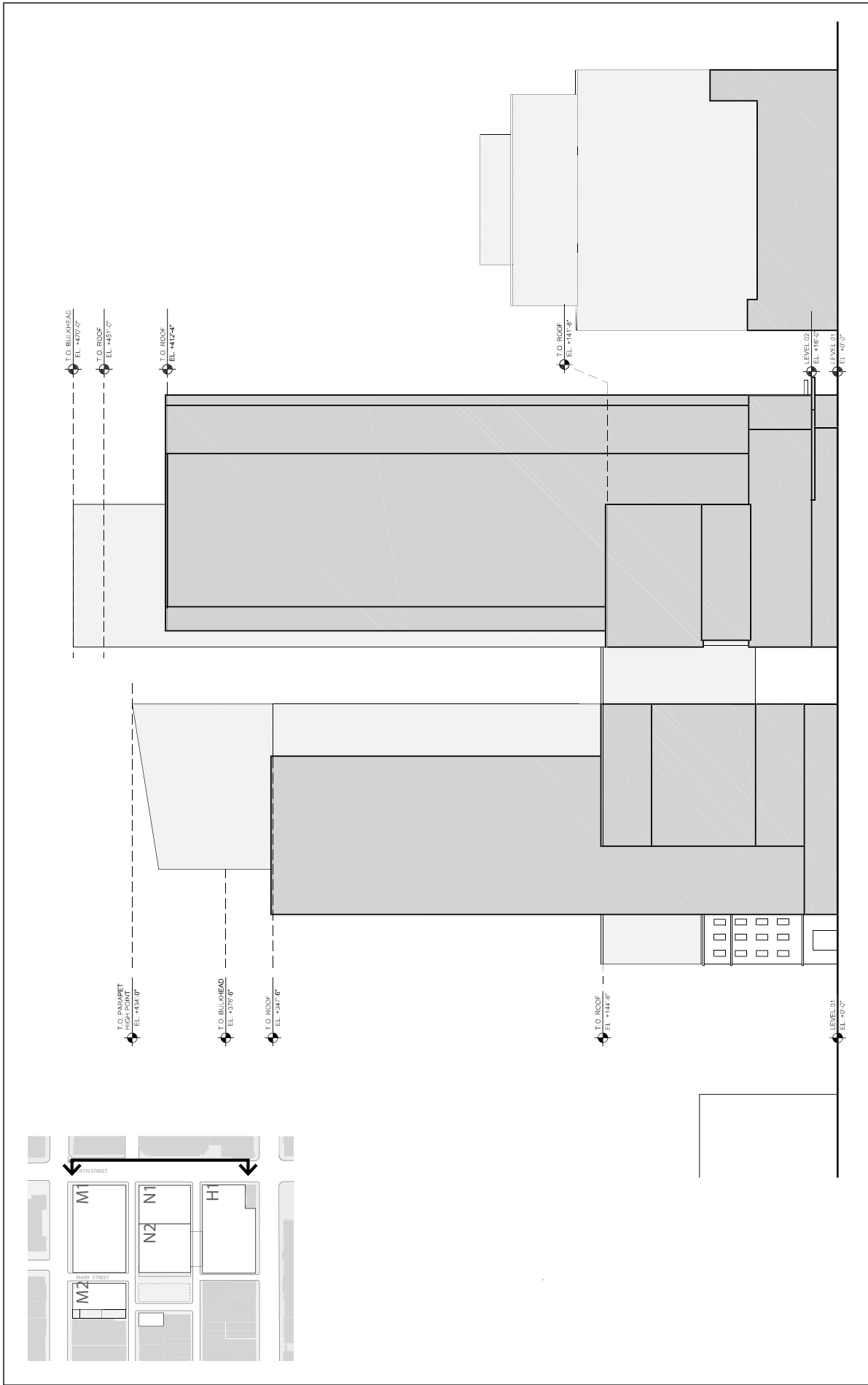
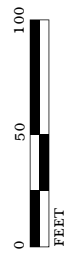


FIGURE II-7

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
 Proposed Building Elevations -
 Fifth Street (East)

SOURCE: FOREST CITY, AUGUST 2013.

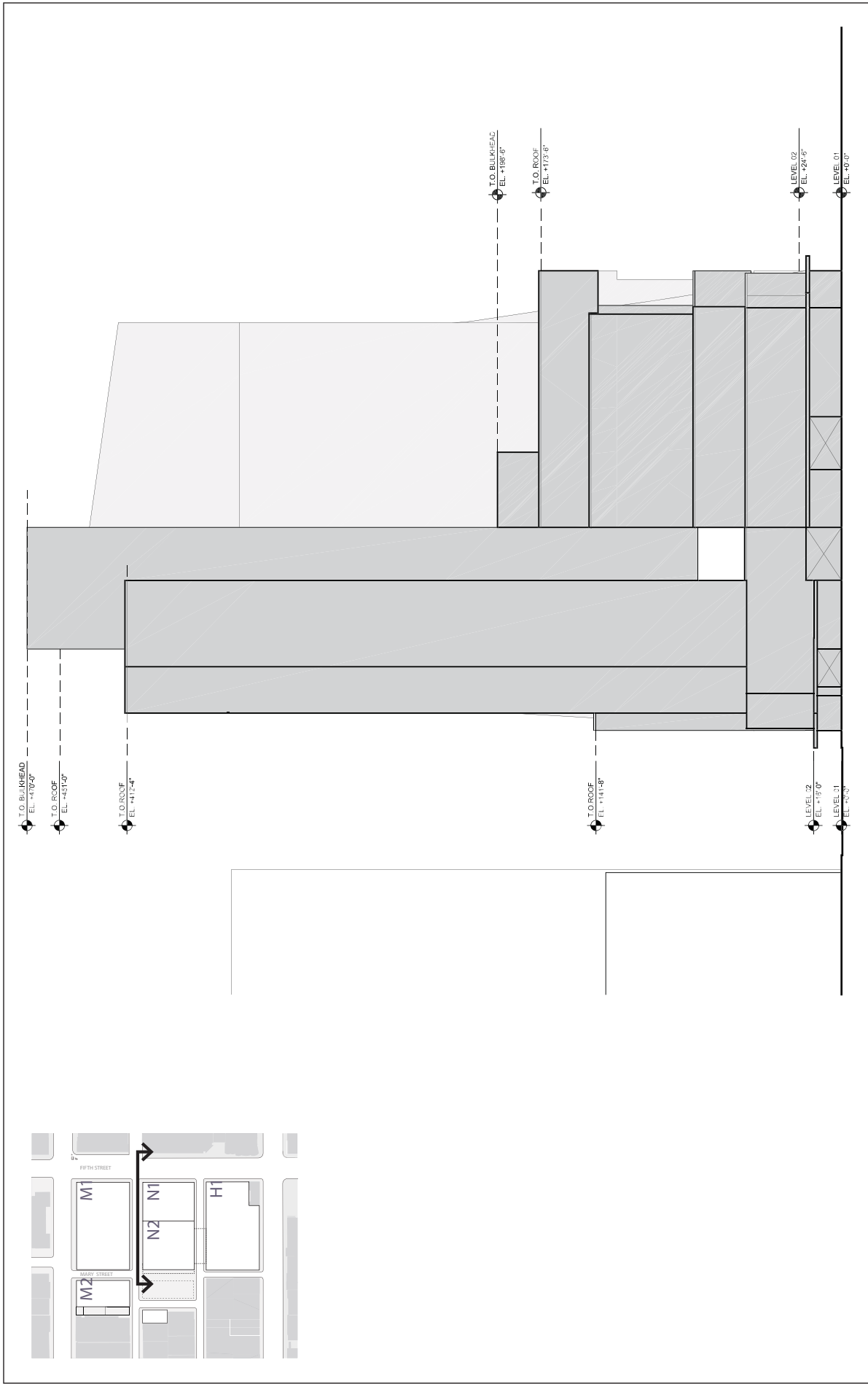


FIGURE II-8

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
Proposed Building Elevations -
Minna Street (North)

SOURCE: FOREST CITY, JUNE 2014.

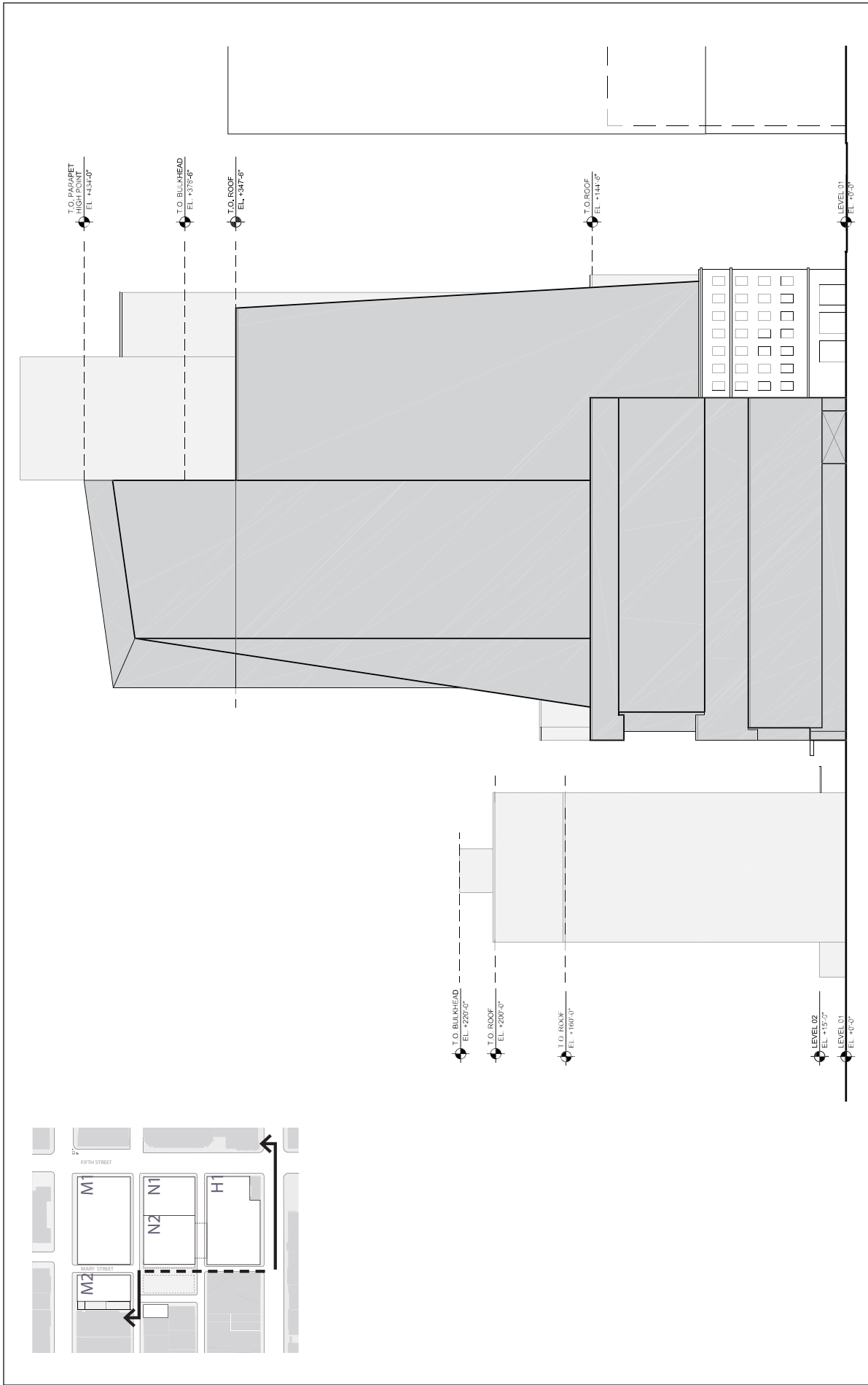


FIGURE II-9

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
 Proposed Building Elevations -
 Minna Street and Howard Street (South)

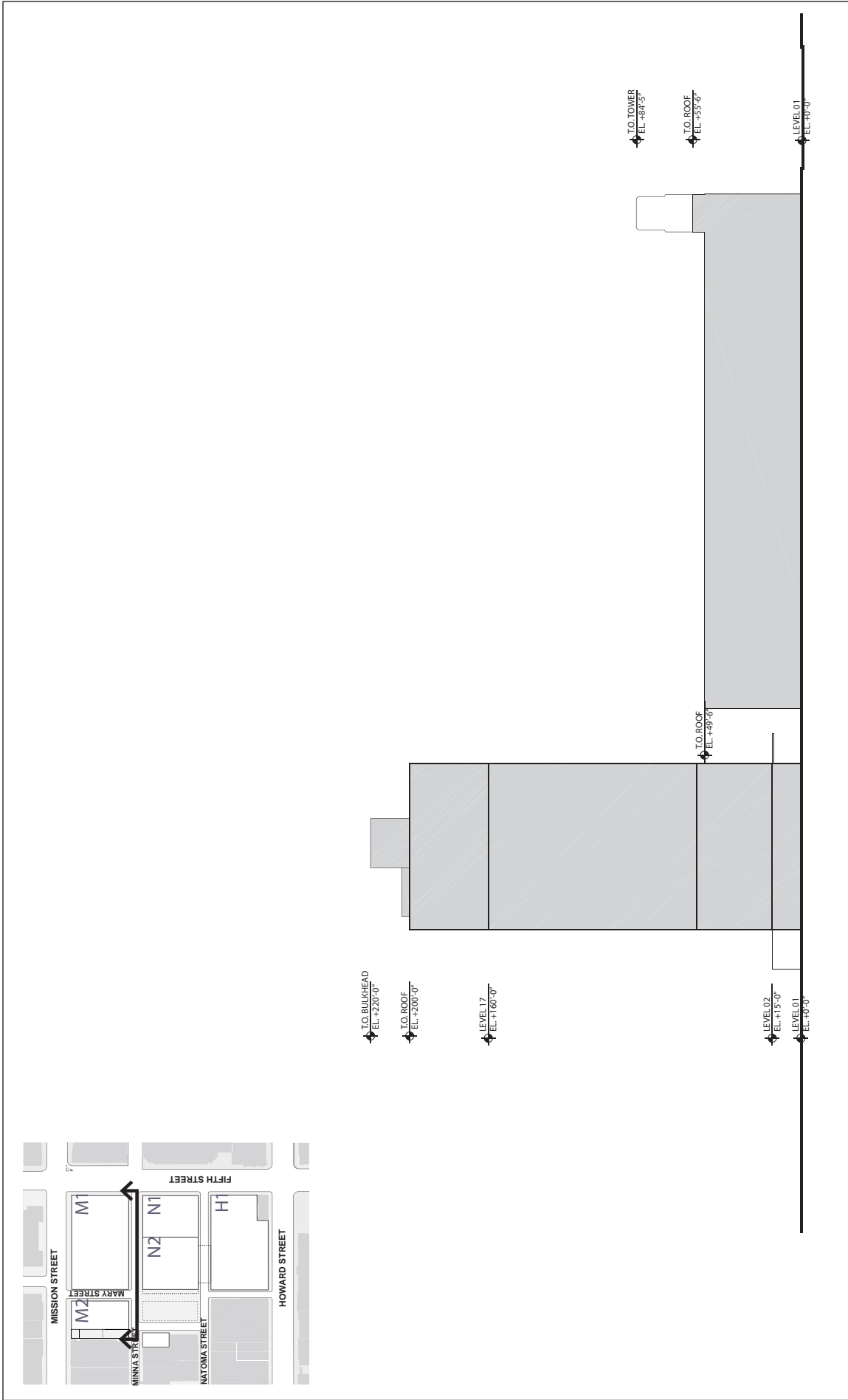


FIGURE II-10

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
Proposed Building Elevations -
Minna Street (South)

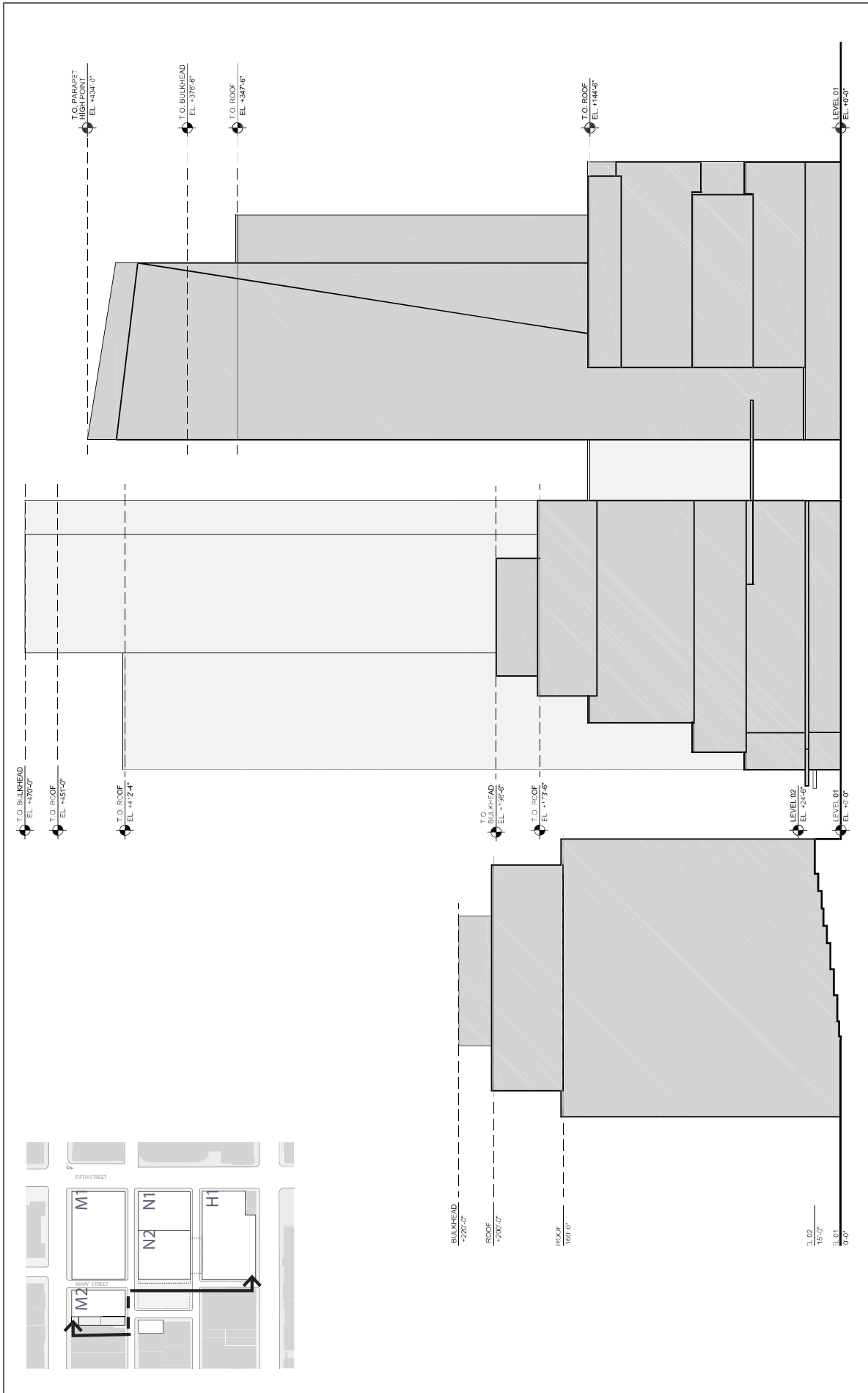


FIGURE II-11

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
Proposed Building Elevations -
Mary Street (West)

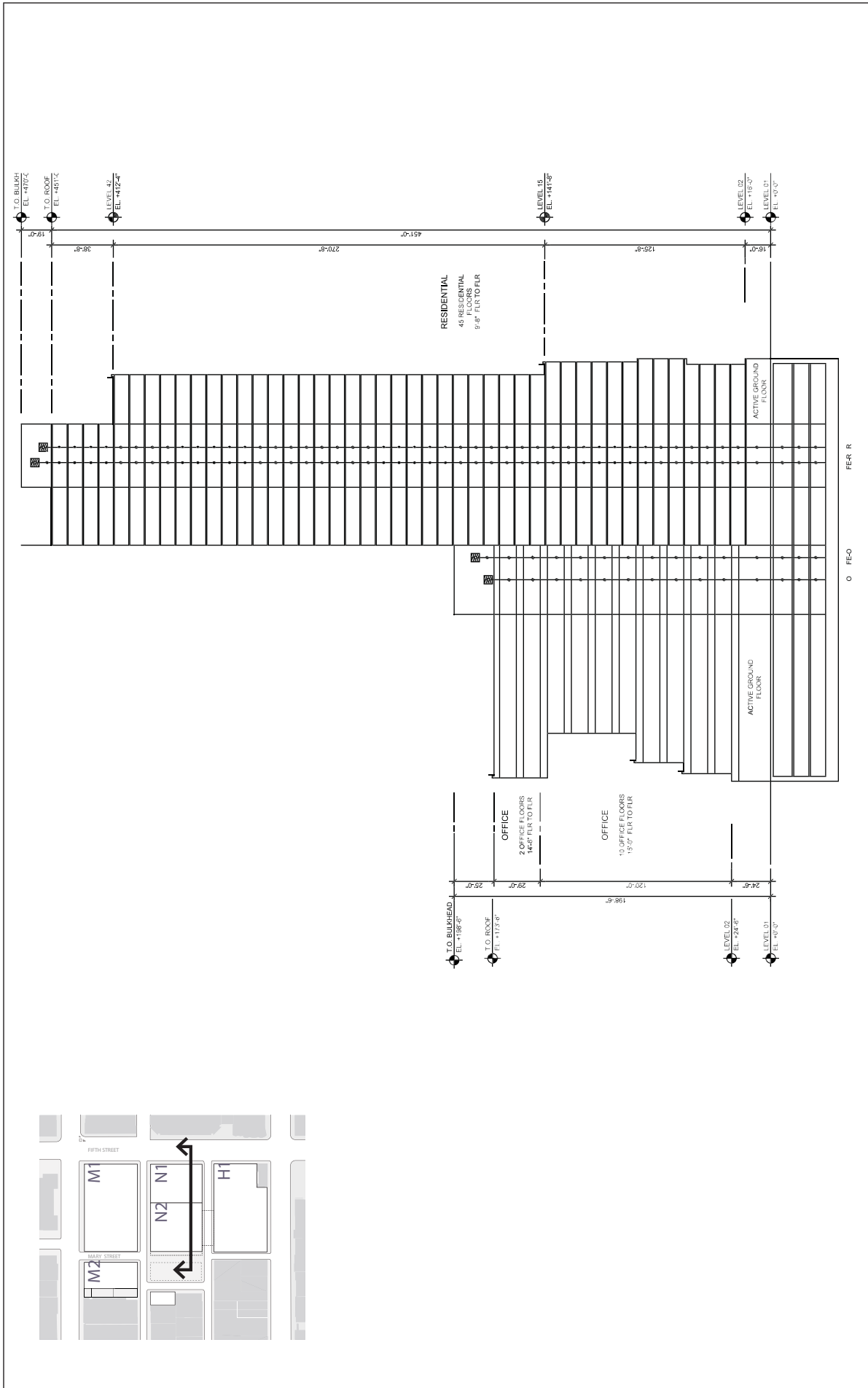


FIGURE II-12

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
Proposed Building Sections -
Buildings N1 and N2 (East/West)

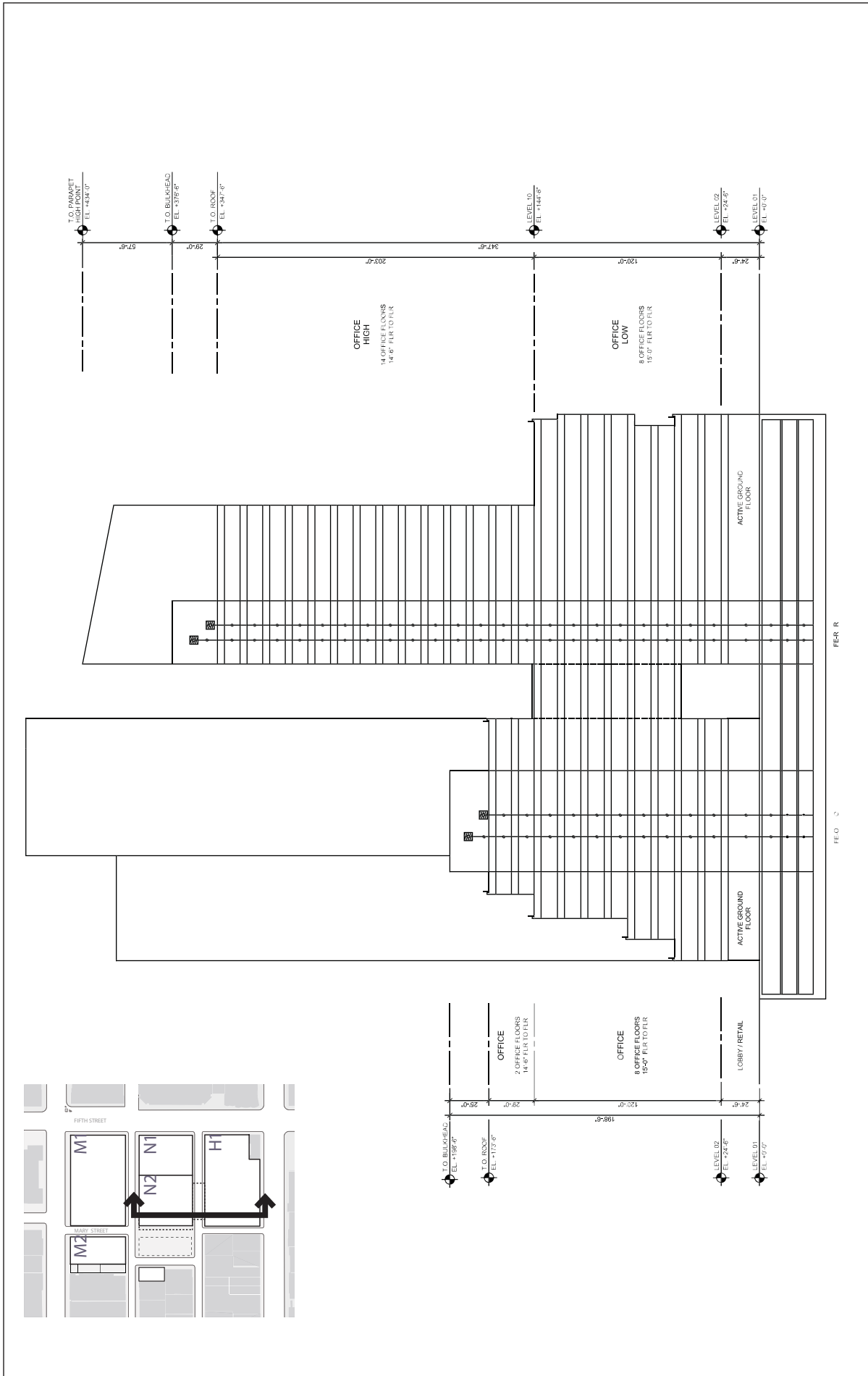


FIGURE II-13

NOTE: Unless otherwise noted, building heights reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits.



5M Project EIR
Proposed Building Sections -
Buildings N2 and H1 (North/South)

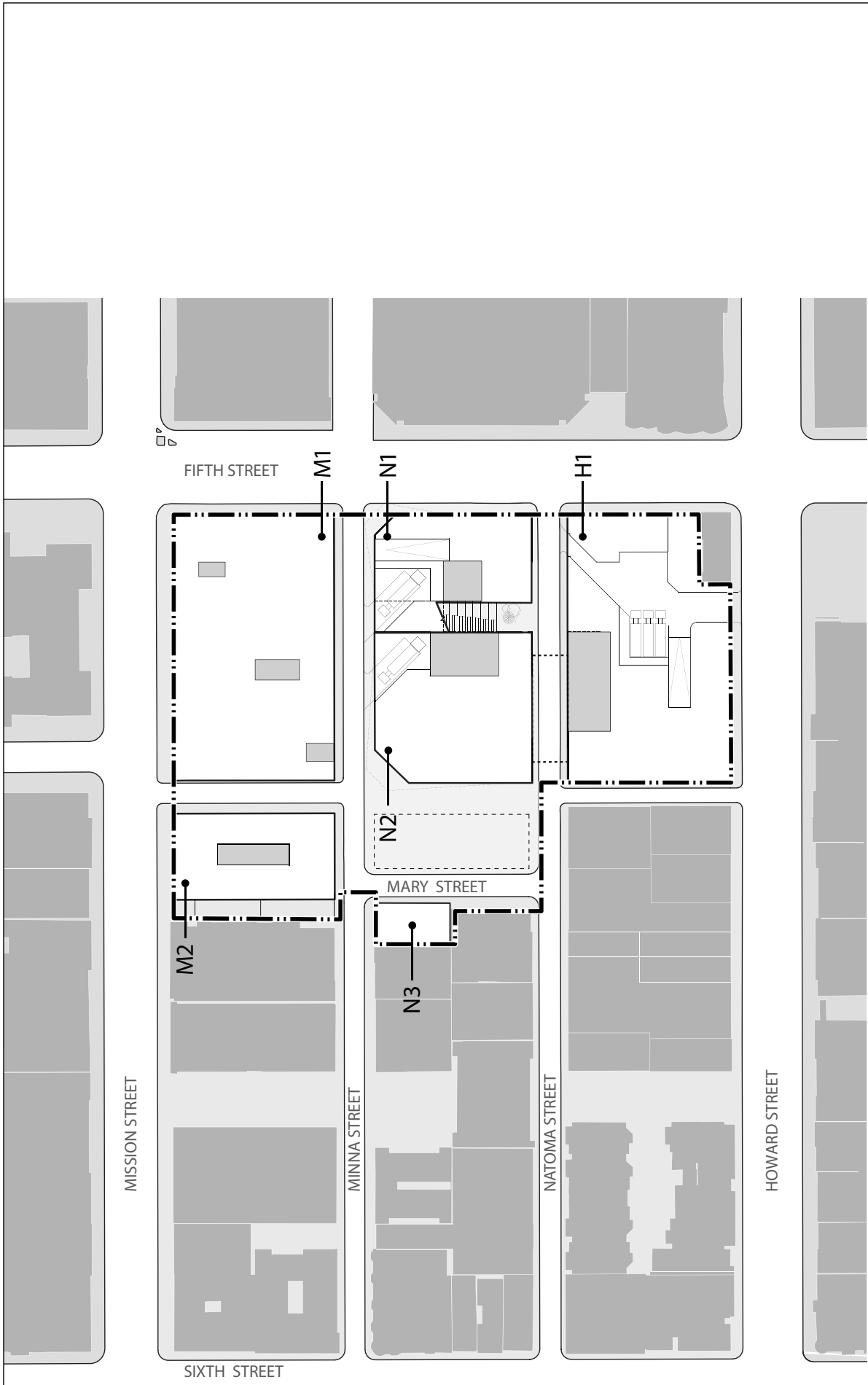
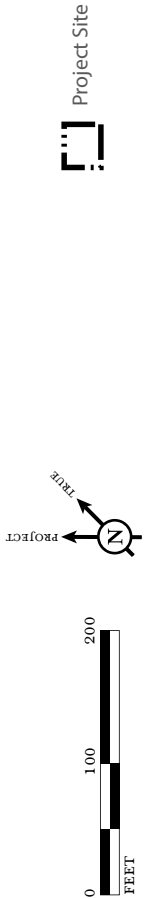


FIGURE II-14

5M Project EIR
Office and Residential Schemes -
Typical Ground Floor Plan



SOURCE: FOREST CITY, SEPTEMBER 2013.

*Note Residential Scheme core locations in H1 parcel vary in accordance with typical ground plan provided.

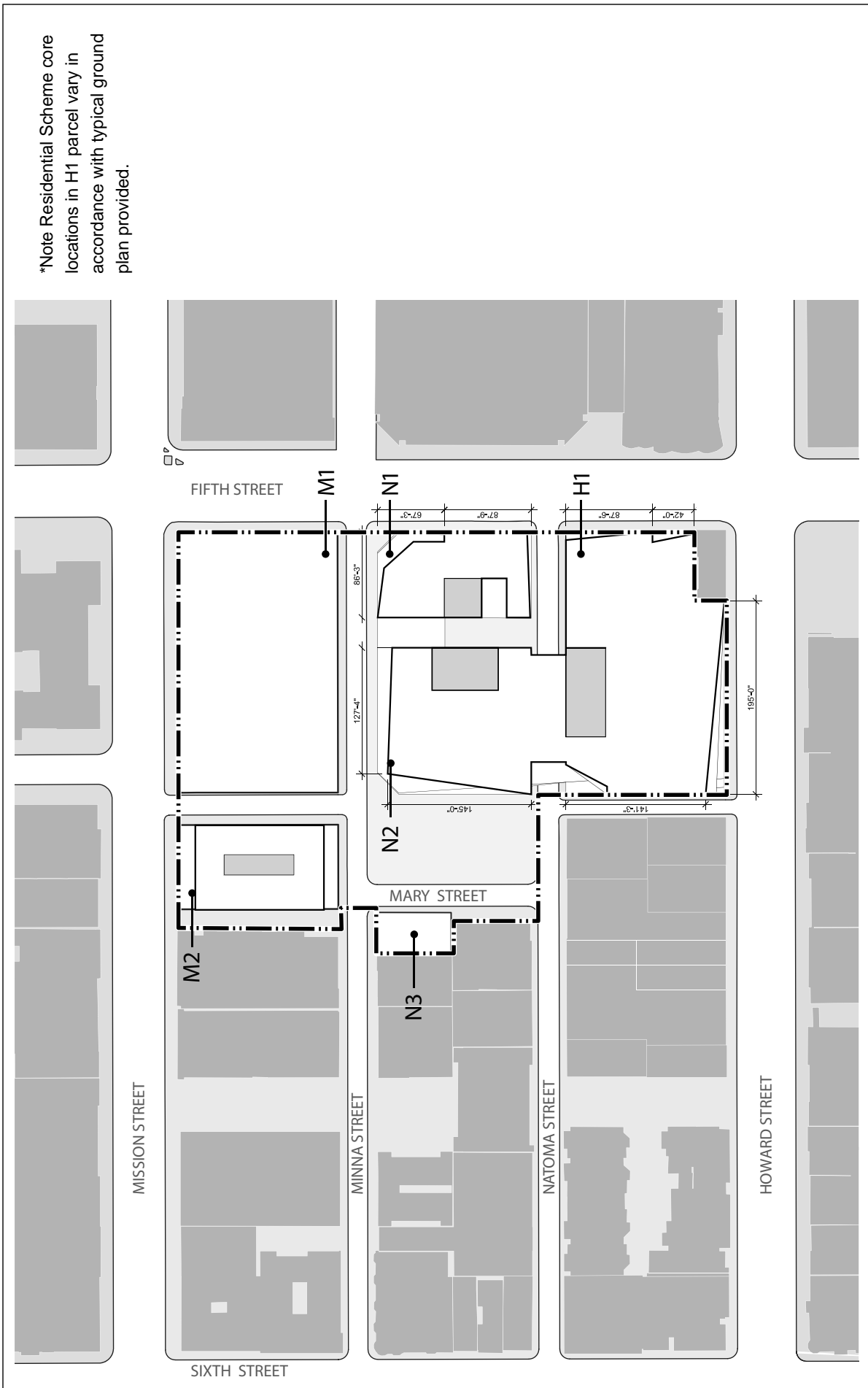


FIGURE II-15

5M Project EIR
Office and Residential Schemes -
Podium Plan - Floors 2-10



SOURCE: FOREST CITY, AUGUST 2013.

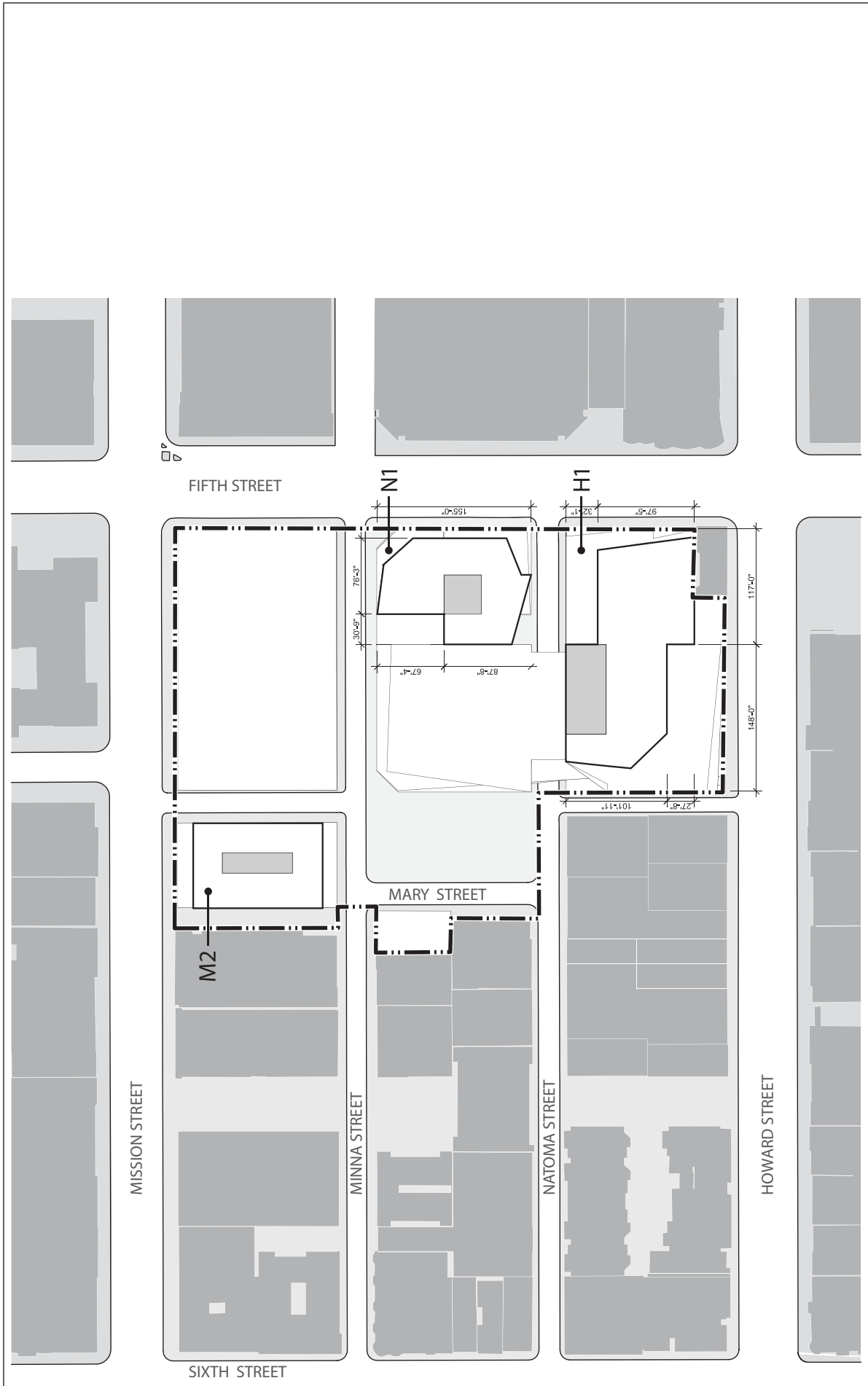
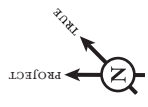


FIGURE II-16

5M Project EIR
Office Scheme -
Typical Upper Level Plan - Floors 11 and Up

Project Site



SOURCE: FOREST CITY, AUGUST 2013.

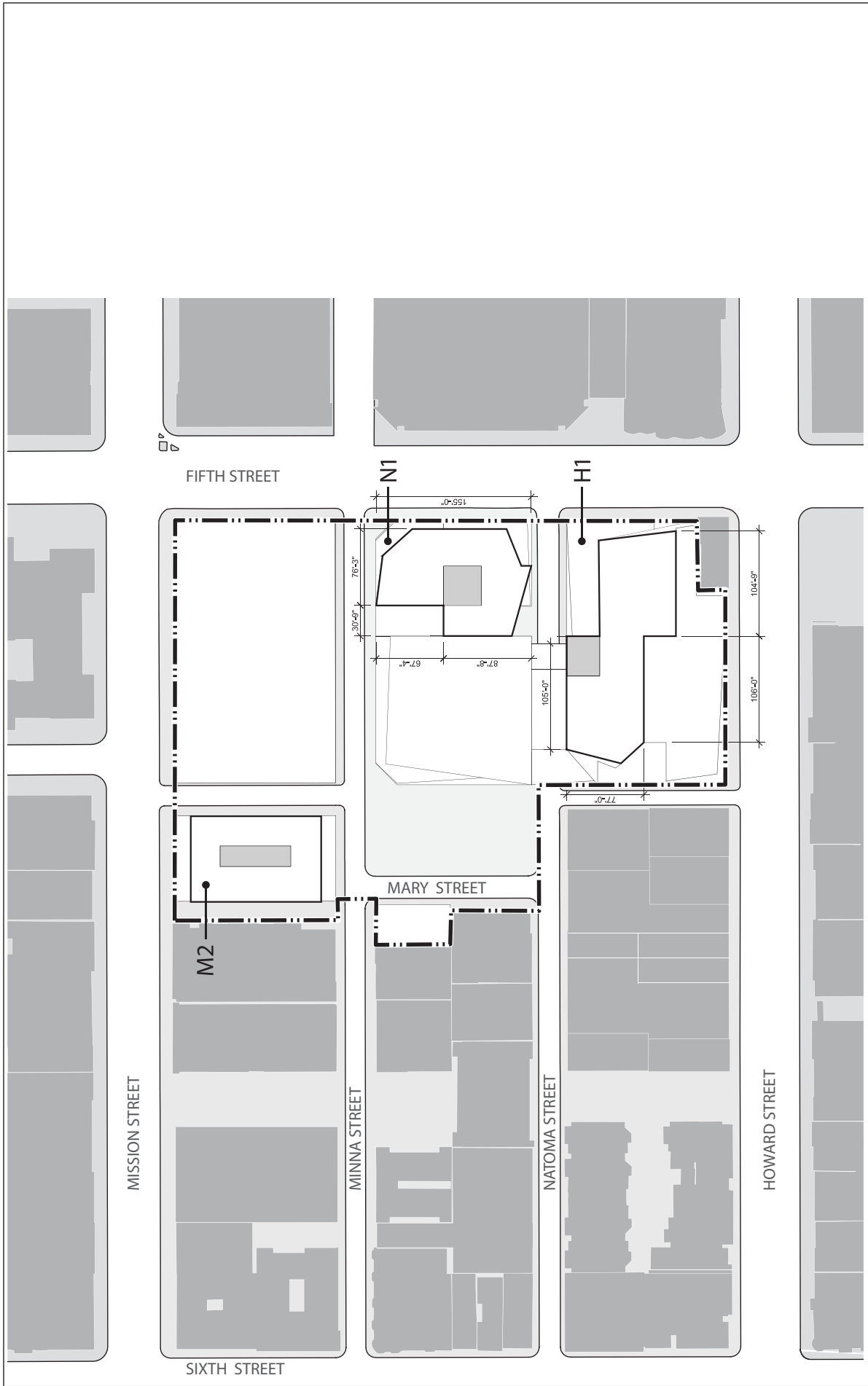
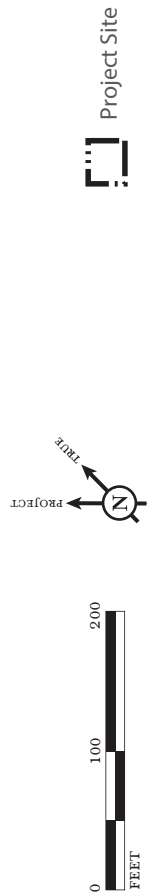


FIGURE II-17

5M Project EIR
 Residential Scheme -
 Typical Upper Level Plan - Floors 11 and Up



SOURCE: FOREST CITY, AUGUST 2013.

Under the Residential Scheme, the completed project would include a total of 1,808,800 gsf of renovated existing buildings and new construction, comprising up to 598,500 gsf of office uses (280,800 gsf of net new office space); 1,057,700 gsf of residential uses (approximately 1,209 dwelling units); and 152,600 gsf of active ground floor uses. Up to 756 vehicle parking spaces would be provided in three subterranean levels. About 62,100 square feet of shared open space (including 34,450 square feet of privately-owned publicly-accessible open space) would be provided throughout the site.

Table II-3 provides a summary of the approximate square footage of existing uses, existing uses to be retained, and new construction. **Table II-4** provides a summary of the buildings that would be developed as part of the proposed project.

The proposed project would also change the existing vehicular and pedestrian circulation pattern to enhance pedestrian comfort within the internal streets while facilitating through-movement of vehicular or bicycle traffic to arterial streets.

Table II-3: Existing and Proposed Uses

Use	Existing (gsf)	Existing to be Retained or Replaced (gsf)	Office Scheme		Residential Scheme	
			Net New (gsf)	Total Proposed (gsf)	Net New (gsf)	Total Proposed (gsf)
Office/Support/Commercial	317,700	317,700	554,200	871,900	280,800	598,500
Retail/Active Ground Floor Use (Retail/Office/Cultural/Educational)	-	-	152,600	152,600	152,600	152,600
Residential	-	-	802,500	802,500	1,057,700	1,057,700
Total Square Footage	317,700	317,700	1,509,300	1,827,000	1,491,100	1,808,800
Parking ^a	68,000	68,000	259,700	327,700	248,700	316,700
Open space	-	-	44,600	44,600	62,100	62,100
Dwelling Units	-	-	914	914	1,209	1,209
Parking Spaces	256	256	407	663	500	756
Number of Buildings	8	2	4	6	4	6
Height of Buildings	15 to 65 feet	50 to 65 feet	50 to 470 feet	50 to 470 feet	50 to 411 feet	50 to 411 feet

^a Parking square footage does not include building cores, mechanical equipment, or areas devoted to bicycle parking.

Note: gsf = gross square feet. All square footage numbers have been rounded to the nearest 100 gsf. See Glossary for definition of gsf. Parking square footage is shown as a separate line item. Proposed gsf does not include allowances for code-allowed exclusions such as child care facilities or specific art uses per Planning Code Sections 102.9(b)(12), (b)(14), (b)(15), and (b)(18). In calculating existing building gsf, the basement of the Chronicle Building is included in the gsf calculations, as it is currently in use as office space. Number of Buildings does not include the connector, which is included as part of Building N-2.

Source: Forest City Residential Development, Inc., July 31, 2013.

Table II-4: Proposed Buildings and Uses (Detail)

Building	Street Address	Cross Streets	Office Scheme Gross Square Footage (gsf)					Residential Scheme Gross Square Footage (gsf)					
			Proposed Uses	Office	Residential	Active Ground Floor	Total	Proposed Uses	Office	Residential	Active Ground Floor	Total	
M-1 (Chronicle Building)	901-933 Mission St.	Mission and Fifth Streets	Office and Active Ground Floor	84,800	-	42,400	127,200	Office and Active Ground Floor	84,800	-	42,400	127,200	
M-2	947-949 Mission St. 941-945 Mission St. 939 Mission St.	Mission and Mary Streets	Residential and Active Ground Floor	-	242,900	13,600	256,500	Residential and Active Ground Floor	-	242,900	13,600	256,500	
N-1	110 Fifth St. ^a	Minna and Fifth Street	Residential and Active Ground Floor	-	559,600	17,900	577,500	Residential and Active Ground Floor	-	480,700	17,900	498,600	
N-2	110 Fifth St. 430 Natoma St.	Minna and Mary Streets	Office and Active Ground Floor	180,000	-	28,400	208,400	Office and Active Ground Floor	180,000	-	28,400	208,400	
N-3 (Dempster Printing Building)	447-449 Minna St.	Minna and Mary Streets	Office	12,000	-	-	12,000	Office	12,000	-	-	12,000	
H-1	172 Fifth St.	Natoma and Fifth Streets	Office and Active Ground Floor	577,300	-	50,300	627,600	Office, Residential, and Active Ground Floor Retail	303,900	334,100	50,300	688,300	
	190 Fifth St.	Howard and Fifth Streets											
	910 Howard St.	Howard and Fifth Streets											
	912 Howard St.	Mary and Natoma Streets											
	924-926 Howard St.	Natoma and Fifth Streets											
	914-918 Howard St.	Howard and Fifth Streets											
H-1-N-2 Connector	Natoma St.	Fifth and Mary Streets	Office	17,800	-	-	17,800	Office	17,800	-	-	17,800	
TOTAL							1,827,000	TOTAL					1,808,800

^a 110 Fifth Street describes the existing parcel. The proposed project would divide this parcel to create the N-1 and N-2 parcels.

Note: Total reflects rounding of individual building square footages; all numbers have been rounded to the nearest 100 gsf. Total gsf for the purposes of this environmental review is 1,827,000 (as proposed under the Office Scheme).

Source: Forest City Residential Development, Inc., July 31, 2013.

The proposed project also includes programming elements that are anticipated to include art and cultural events, other public events, and collaborations among businesses and organizations that use the commercial space. In addition to existing Off the Grid food truck events, which currently occur on the site twice a week, events on the project site could include outdoor film screenings, night markets, food events, streets fairs or festivals, lecture series, and theater performances during weekdays and weekends. Typical events, occurring up to an estimated three times a month, could have attendance of approximately 500 to 750 people, while larger-scale events, occurring approximately twice per year, could have attendance up to 5,000 people. **Table II-2** provides a brief description of existing project organizations on the site.

Project Background

An application was filed for the proposed project on February 2, 2012. The project described in the application would have resulted in the retention and renovation of the Chronicle Building and rehabilitation of the Dempster Printing Building, the demolition of six existing buildings and the construction of five new buildings on the site. Buildings would have ranged up to 400 feet in height and contained approximately 1,850,100 gsf of new and existing active ground floor uses (arts/cultural/educational), office, and residential uses. An Initial Study and Notice of Preparation were published for the project in January 2013. Preliminary analysis indicated the project site and vicinity are prone to strong winds (primarily due to the preponderance of lower-scale buildings to the north and west of the site) and that the project as described in the Initial Study would likely generate hazardous wind conditions.⁹ Between March 2013 and July 2013, the project was revised (as part of an iterative process involving real-time wind tunnel analysis) to reduce potential wind exceedances. The design described herein is largely consistent with the original square footages and building envelopes; however, project revisions include an internal relocation of buildings, adjustments to height, and the inclusion of architectural elements designed to reduce ground-level winds.¹⁰

⁹ As defined in Planning Code Section 148.

¹⁰ Forest City, *Project Description Revisions*, July 31, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

The following discussion describes the proposed project's specific physical and programming elements for both schemes.

Proposed Buildings

The project would result in the retention of two buildings (M-1 [Chronicle Building] and N-3 [Dempster Printing Building]), the demolition of six existing buildings, and the construction of four new buildings, plus a connector between two buildings, on the site. Each proposed building is described in more detail in this subsection.

The key differences between the buildings proposed as part of the Office Scheme and the buildings proposed as part of the Residential Scheme are summarized below and reflected in greater detail in **Table II-4:**

- Under the Residential Scheme, Building N-1 would contain 480,700 square feet of residential space (538 units) instead of 559,600 square feet of residential space (626 units) under the Office Scheme.
- Under the Residential Scheme, Building H-1 would contain 303,900 square feet of office space (compared to 577,300 square feet of office space under the Office Scheme) and 334,100 square feet of residential space (383 units). Under the Office Scheme, Building H-1 would contain no residential uses.
- The tallest building under the Residential Scheme would be 411 feet; the tallest building under the Office Scheme would be 470 feet.

The Office Scheme would include a total of 914 residential units, and the Residential Scheme would include a total of 1,209 residential units. Dwelling unit sizes for the residential buildings have not yet been established; however, the overall unit mix for the project site would be approximately 70 percent studios and one-bedroom units (approximately 651 units for the Office Scheme; approximately 858 units for the Residential Scheme) and approximately 30 percent two-bedroom units (approximately 263 units for the Office Scheme; approximately 351 units for the Residential Scheme). The proposed project would be subject to compliance with the Inclusionary Housing requirements of Planning Code

Section 415, which require the provision of affordable units and/or the payment of in-lieu fees for the development of affordable housing. The buildings that would be constructed or retained (and either rehabilitated or renovated) as part of the project are described below.

Building M-1 (Chronicle Building). As part of the proposed project, the Chronicle Building would be rehabilitated through the following: 1) a new public elevator and potential additional staircase for public access to a proposed rooftop open space area,¹¹ and modifications to existing staircases to service the proposed rooftop area and meet tenant needs; 2) addition of rooftop open space; 3) a potential increase in the number and location of pedestrian entrances and exits into the building, or potential additional windows or openings, on Minna and/or Mary Streets (where none currently exist); 4) interior structural and circulation alterations necessitated by demolition of the connector to the Examiner Building and addition of the rooftop open space area ; 5) a new façade where the connection to the Examiner Building would be removed; and 6) upgrades to mechanical, electrical, and plumbing systems, and the consolidation of building systems into the Chronicle Building.

Under both the Office Scheme and Residential Scheme, the renovated Chronicle Building would be a 3-story, 50-foot-tall, 127,200 gsf building (excluding the clock tower), comprising approximately 84,800 gsf of office space and 42,400 gsf of active ground floor space. A rooftop area (on the top of the third floor) would provide approximately 22,000 square feet of privately-owned publicly accessible open space (provided to meet, in part, open space requirements for proposed residential and commercial buildings), and an up to 5,000 gsf enclosed area for small retail services serving the open space. The remaining rooftop space would be occupied by new and/or extant building mechanical systems in a screened rooftop enclosure and set back from the building perimeter. Additional vertical ingress and egress for the open space would be integrated into the rooftop design (see **Figure II-18**). Rooftop access would be from the outside and inside of the Chronicle Building, pending a feasibility study being undertaken by the project sponsor.

¹¹ Any external elevator or stairway would be located on a secondary (not character-defining) façade of the Chronicle Building, and any overrun would be set back from the building parapet such that it would not be visible from the opposite sidewalk on Fifth or Mission Streets.

Building M-2. Under the Office Scheme and Residential Scheme, Building M-2, located west of Building M-1 (Chronicle Building) along Mission Street, would be an approximately 20-story, 220-foot-tall, 256,500 gsf building with 242,900 gsf of residential space (288 units) above approximately 13,600 gsf of active ground floor space. Three existing surface parking lots would be removed for construction of this building.

Building N-1. Under the Office Scheme, Building N-1, which would be located south of Building M-1 (Chronicle Building) and east of Building N-2, would be a 46-story, approximately 470-foot-tall, 577,500 gsf building. The ground floor would contain approximately 17,900 gsf of active ground floor space. The remaining floors would contain 559,600 gsf of residential uses (626 units).

Under the Residential Scheme, Building N-1 would be a 38-story, approximately 393-foot-tall, 498,600 gsf building. The ground floor would contain approximately 17,900 gsf of active ground floor space. The remaining floors would contain 480,700 gsf of residential uses (538 units).

For construction of Building N-1, the Examiner Building (110 Fifth Street) would be demolished.

Building N-2. Under the Office Scheme and Residential Scheme, Building N-2, located to the west of Building N-1 and east of Mary Court (described in the section below), would be an approximately 11-story, 195-foot-tall, 208,400 gsf building. The ground floor would contain 28,400 square feet of active ground floor uses. The upper 10 floors would contain 180,000 square feet of office uses. The Camelline Building (430 Natoma Street) would be demolished to allow for the construction of Building N-2. In addition, the existing two-story, 14,000-square-foot connector across Minna Street would be demolished.

H-1/N-2 Connector. Under the Office Scheme, the proposed H-1/N-2 Connector would be a six-story, 17,800 gsf connector over Natoma Street between Buildings H-1 and N-2, and would be located approximately 50 feet above the ground floor. The connector would have an average length no greater than 90 feet, with a length of approximately 105 feet at the base and a width of 30 feet at the top. The connector would extend up to 6 floors to a total height of 145 feet, spanning the 35-foot

width of Natoma Street. The H-1/N-2 connector would permit varying midrise floorplate sizes above the base of Buildings H-1 and N-2, and would facilitate circulation between the buildings and connect office space between the buildings. The H-1/N-2 connector would contain office space. Access rights to the air space occupied by the connector above the public right-of-way are proposed to be obtained through subdivision, vacation, and transfer.

Building N-3 (Dempster Printing Building). Under the Office Scheme and Residential Scheme, the existing four-story Dempster Printing Building, located at 447 Minna Street would be rehabilitated to accommodate 12,000 gsf of office uses. Renovation would include alterations to the interior of the structure and potentially the exterior envelope (in the form of additional or modified entries). No vertical addition to the structure is proposed.

Building H-1. Under the Office Scheme, Building H-1, located south of Buildings N-2 and N-1 on the northwest quadrant of Fifth and Howard Streets, would be an approximately 23-story, 434-foot-tall, 627,600 gsf building with 577,300 gsf of office space above 50,300 gsf of active ground floor space.

Under the Residential Scheme, Building H-1 would be an approximately 32-story, 411-foot-tall,¹² 688,300 gsf building with 334,100 gsf of residential space (383 units), above 303,900 gsf of office uses, above 50,300 gsf of active ground floor space.

Construction of Building H-1 would require the demolition of a surface parking lot and the Zihn Building (190 Fifth Street).

¹² Under the Residential Scheme, Building H-1 would have lower floor-to-floor heights than the Office Scheme due to the incorporation of residential uses. Thus, although the total building height would be lower under the Residential Scheme, the Office Scheme would have fewer overall stories.

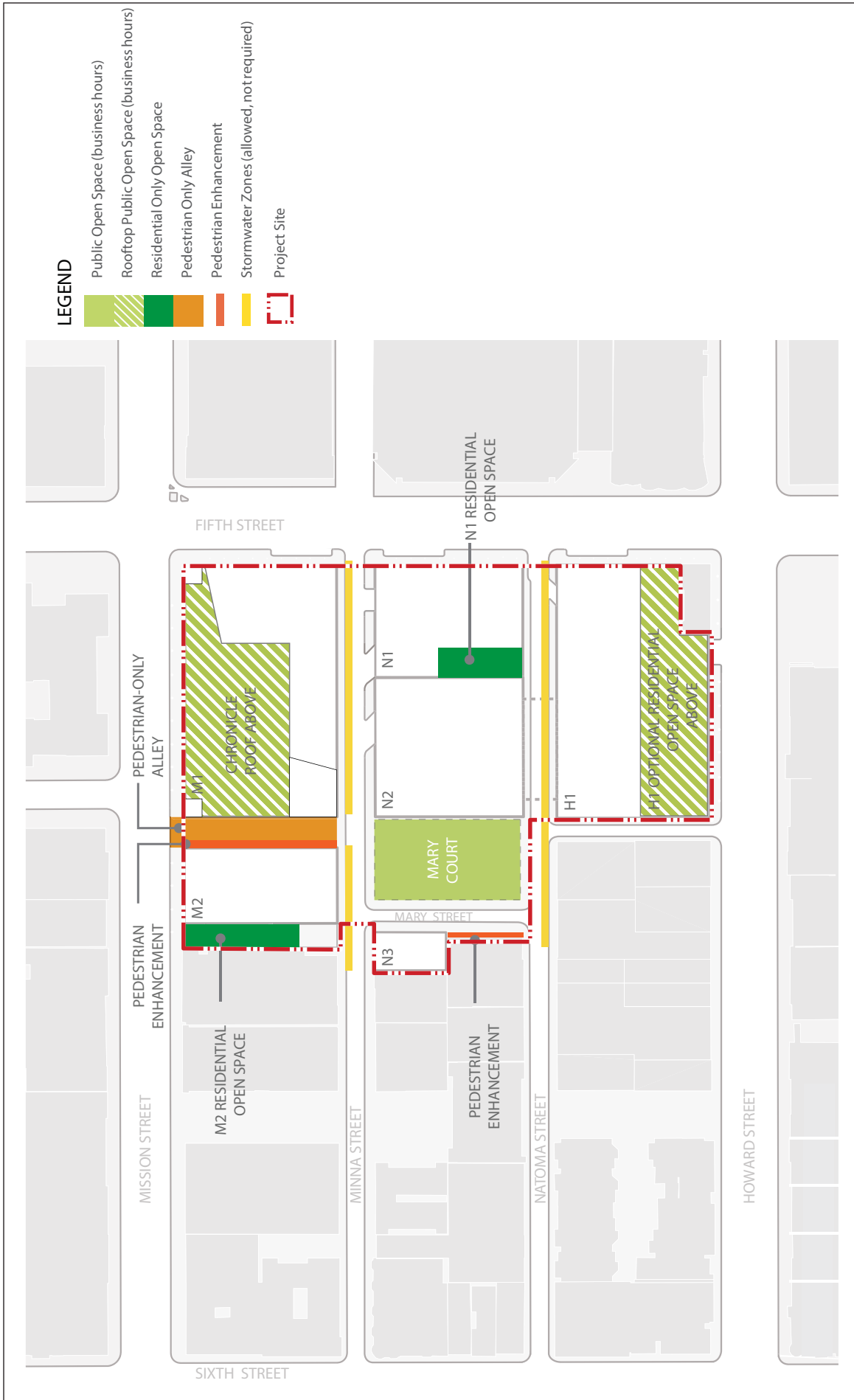


FIGURE II-18



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Publicly Accessible Open Space and Public Realm Improvements

The proposed project would provide publicly-accessible open space as part of the larger program of public realm improvements that would occur throughout the project site. The public realm includes traditional publicly-accessible spaces that, together, are intended to meet Planning Code requirements for commercial open space and residential open space.¹³ The public realm also includes pedestrian-focused improvements to internal public streets that are intended to extend the public open spaces and connect them to the exterior of the project site. Both would be located adjacent to ground floor uses, such as cafes, food markets, local retail and arts and cultural spaces. Together, the three elements of the public realm – traditional open spaces, interior streets, and adjacent ground floor uses – are intended to be a mutually supportive network of spaces that facilitate multiple uses by project tenants and the general public. These uses are described below.

Project Open Space. Under the Office Scheme, the public realm would include 44,600 square feet of shared open space (including 36,700 square feet of privately-owned, publicly-accessible open space and 7,900 square feet of privately-owned, exclusively-residential open space). Under the Residential Scheme, 62,100 square feet of shared open space (including 36,700 square feet of privately-owned, publicly-accessible open space and 25,400 square feet of privately-owned, exclusively-residential open space) would be provided. **Table II-5** provides the square footage of the proposed open spaces on the project site. **Figure II-18** shows the proposed open space plan.

As further described below, open space would be provided in two main locations on the project site, including: a court between Minna and Natoma Streets (Mary Court) and open space on the roof of Building M-1 (Chronicle Rooftop). Both would be publicly accessible in accordance with the Fifth and Mission SUD, which is proposed as part of the project and would allow certain limited restrictions on access. In addition, open space would be provided within several smaller areas throughout the project site, as discussed below. The Chronicle Rooftop open space would be publicly accessible only

¹³ The proposed Fifth and Mission Special Use District (SUD), described in greater detail later in this chapter, would permit residential open space to be provided in various locations throughout the project site.

during business hours. Open space proposed as part of the project would also include landscape segments along the segment of Mary Street between Mission and Natoma Streets, and the relocated segment of Mary Street between Minna and Natoma Streets.

Table II-5: Proposed Open Space

Proposed Open Space	Office Scheme (gsf)	Residential Scheme (gsf)
Mary Court ^a	12,450	12,450
North Mary Street Pedestrian Improvements	1,600	1,600
Central Mary Street Pedestrian Improvements	650	650
Building M-2 Terrace	4,400	4,400
Building N-1 Open Space	3,500	3,500
Chronicle Rooftop ^a	22,000	22,000
Building H-1 Open Space	–	17,500
Total	44,600	62,100

^a Privately-owned publicly-accessible open spaces
 Source: Forest City Residential Development, Inc., 2013.

Mary Court. Mary Court would serve as the proposed project’s central public space and would be created by vacating the existing Mary Street segment between Minna and Natoma Streets and replacing it with 12,450 square feet of open space. Mary Court would be privately owned, but publicly accessible in accordance with the Planning Code and Fifth and Mission SUD. Per the proposed project D4D, an overhead canopy or trellis structure may be constructed in Mary Court, occupying at most 50 percent of the area of Mary Court and at least 50 percent open to the sky. Mary Court could accommodate events, workshops, and speaker series, hosted in part by adjacent tenants, as well as less formal interactions among residents, employees, and the public.

North Mary Street Pedestrian Improvements. A 1,600-square-foot band of open space would be established on the west side of the North Mary Street alleyway which, as discussed further below, would be converted to a pedestrian-only alleyway.

Central Mary Street Pedestrian Improvements. A 650-square-foot band of landscaping would be established on the west side of the re-aligned Mary Street right-of-way (discussed further below).

Chronicle Rooftop. Approximately 22,000 square feet of publicly-accessible private open space would be developed on the existing Chronicle Building rooftop. The Chronicle Rooftop would be privately owned, but publicly accessible. The Chronicle Rooftop open space would be publicly accessible only during reasonable business hours. Access to the Chronicle Rooftop would be provided internally and potentially externally to Building M-1 (Chronicle Building).

Other Open Spaces. Other open spaces would be developed around the site, for use by residents of the site, as summarized below. These open spaces would not be open to the public.

- *Building M-2 Stepped Terrace.* Under both the Office and Residential Schemes, an approximately 4,400-square-foot terrace would be developed on the ground floor, stepping up to the second floor, on the west side of Building M-2.
- *Building N-1 Open Space.* Under both the Office and Residential Schemes, a 3,500-square-foot open space would be developed on the west side of Building N-1.
- *Building H-1 Open Space.* This open space, which would be developed only as part of the Residential Scheme, would consist of 17,500 square feet of podium rooftop open space.

Public Rights of Way/Open Space Connections. The proposed project would also result in adjustments to the on-site circulation pattern (and associated underground utilities). Mary Street, between Mission and Minna Streets, would be converted to a pedestrian-only alley (referred to as the North Mary Pedestrian Alley) that would be closed to vehicle and bicycle traffic. Mary Street between Minna and Natoma Streets would be vacated and re-aligned through dedication to the City of a new alignment approximately 75 feet west of the existing right-of-way along the western boundary of the site (the vacated right of way would become part of the Mary Court open space). The relocated segment of Mary Street would be off-set from the North Mary Street Pedestrian Alley and Mary Street between Natoma and Howard Streets. It would be 32 feet wide, include 10-foot sidewalks on both sides, include one lane for northbound traffic, and would accommodate vehicular and bicycle

circulation. The realigned Mary Street segment would be a shared public right-of-way and Mary Street between Natoma and Howard Streets would be converted to shared public ways.¹⁴

As a result of these changes, the proposed public open spaces would be integrated with interior streets and shared public ways that are redesigned to improve pedestrian access and connectivity to and within the project site. These open spaces are also intended to extend centralized open space (Mary Court) to the edges of the site. The interior rights-of-way would serve multiple purposes, and could be used for café seating, pedestrian travel, parklets, and exhibits.

Emergency Generators

Emergency generators would be installed on the site to allow for continued building operations in the event of a power outage. Generator exhaust ducts would be in the following locations (the height of exhaust ducts is indicated in parentheses for each generator): 1) Building M-1, adjacent to Fifth Street (approximately 15 feet); Building M-2, adjacent to Minna Street (approximately 15 feet); 2) Building N-1, adjacent to Minna Street (approximately 16 feet); 3) Building N-2, adjacent to Minna Street (approximately 24.5 feet); and 4) Building H-1, adjacent to Howard Street (approximately 24.5 feet). All generators would meet or exceed Tier 2 off-road emission standards, as defined by the U.S. Environmental Protection Agency and would be retrofitted with an California Air Resources Board (ARB) Level 3 Verified Diesel Emissions Control Strategy (VDECS).

Residents and Employees

The numbers of current and expected new employees and residents at the proposed project are shown in **Table II-6**. No persons currently live on the project site. There are currently approximately 943 full-

¹⁴ Per the San Francisco Better Streets Plan, shared public ways are defined as streets “designed along a single plane (i.e., typically the sidewalk-level grade) that share space among pedestrians, bicycles, and vehicles.” Shared public ways are designed to first accommodate pedestrian use, but also accommodate small numbers of vehicles at low speeds. On a shared street, different travel modes use the roadway simultaneously, but speeds are low and design features are incorporated to prioritize pedestrian travel. San Francisco Planning Department, *San Francisco Better Streets Plan*, 2010. This document is available for review at www.sf-planning.org/ftp/BetterStreets/proposals.htm#Final_Plan (accessed October 31, 2012).

time equivalent (FTE) employees on the project site. With implementation of the Office Scheme, it is anticipated that approximately 4,627 FTE employees would work on the project site, an increase of approximately 3,684 employees. The Office Scheme would also generate 2,084 new residents.¹⁵

With implementation of the Residential Scheme, it is anticipated that approximately 3,320 FTE employees would work on the project site, an increase of approximately 2,377 employees. The Residential Scheme would generate 2,757 new residents.¹⁶

The project’s projected employee and resident count is based on assumptions related to the expected employee density of the site’s proposed commercial space and average household size.¹⁷ The count reflects a weighted average employee density across different types of collaborative and independent work spaces. Densities would range between 160 and 275 square feet per employee (with an average density of 210 square feet per employee). These densities represent those projected for employee configurations of the organizations expected to occupy the project, and represent a higher employee density than often assumed for conventional commercial space, which is typically about 250 square feet per employee.¹⁸ The project’s average household size is 2.3, consistent with the overall average in the City.

Table II-6: Existing and Projected Employees and Residents

	Existing	Office Scheme		Residential Scheme	
		Proposed	Net New	Proposed	Net New
Employees	943	4,627	3,684	3,320	2,377
Residents	0	2,084	2,084	2,757	2,757

Sources: Economic & Planning Systems, August 2013.

¹⁵ Economic & Planning Systems, *Population and Employment Projections for the 5M Development*, August 20, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Economic and Planning Systems, Michael Nimon, Senior Associate. Written communication with LSA Associates, Inc. September 5, 2014.

Access, Circulation and Parking

Existing and proposed vehicular access in and adjacent to the project site is shown on **Figure II-19**. **Figure II-20** shows the proposed pedestrian circulation plan.

Primary changes to the site's vehicular circulation patterns would occur on Mary Street. The northern segment of existing Mary Street, between Mission and Minna Streets, would be closed to vehicular traffic and converted to a pedestrian alleyway. The existing Mary Street right-of-way between Minna and Natoma Streets would be vacated, and a new northbound roadway segment would be established approximately 75 feet west of the existing right-of-way. The roadway segment would be 32 feet in width and would contain 10-foot sidewalks on both sides. The south segment of Mary Street, between Natoma and Howard Streets, would be maintained at its current width as an interior street with northbound traffic flow and a 6-foot sidewalk on the east side and a 5-foot sidewalk on the west side. In addition, Natoma Street, between the two off-set intersections with Mary Street (a segment that is currently eastbound only), would be converted to two-way vehicular traffic.

Main vehicular access to the proposed subterranean parking garage would be provided in the following three locations: 1) via Minna Street (Building M-2), near the intersection of Minna and Mary Streets; 2) via Minna Street (Building N-1), near the intersection of Minna and Fifth Streets; and 3) via Howard Street (Building H-1), near the intersection of Howard and Fifth Streets.

The project site currently contains seven surface parking lots with a total of approximately 256 parking spaces accessed from Mission, Minna, Mary, Natoma, Howard, and Fifth Streets. The existing surface parking lots would be eliminated and the space would be developed with the proposed project. The Office Scheme would provide a maximum of 663 spaces in a subterranean parking garage. The Residential Scheme would provide a maximum of 756 spaces in a subterranean parking garage. Parking would be shared by all buildings on the site (but with designated commercial and residential spaces), in accordance with accessory parking controls proposed in the SUD governing the project site. Major encroachment permits or other forms of access rights would be requested for segments crossing beneath public rights of way. The vehicular parking plan is shown in **Figures II-21 and II-22**.

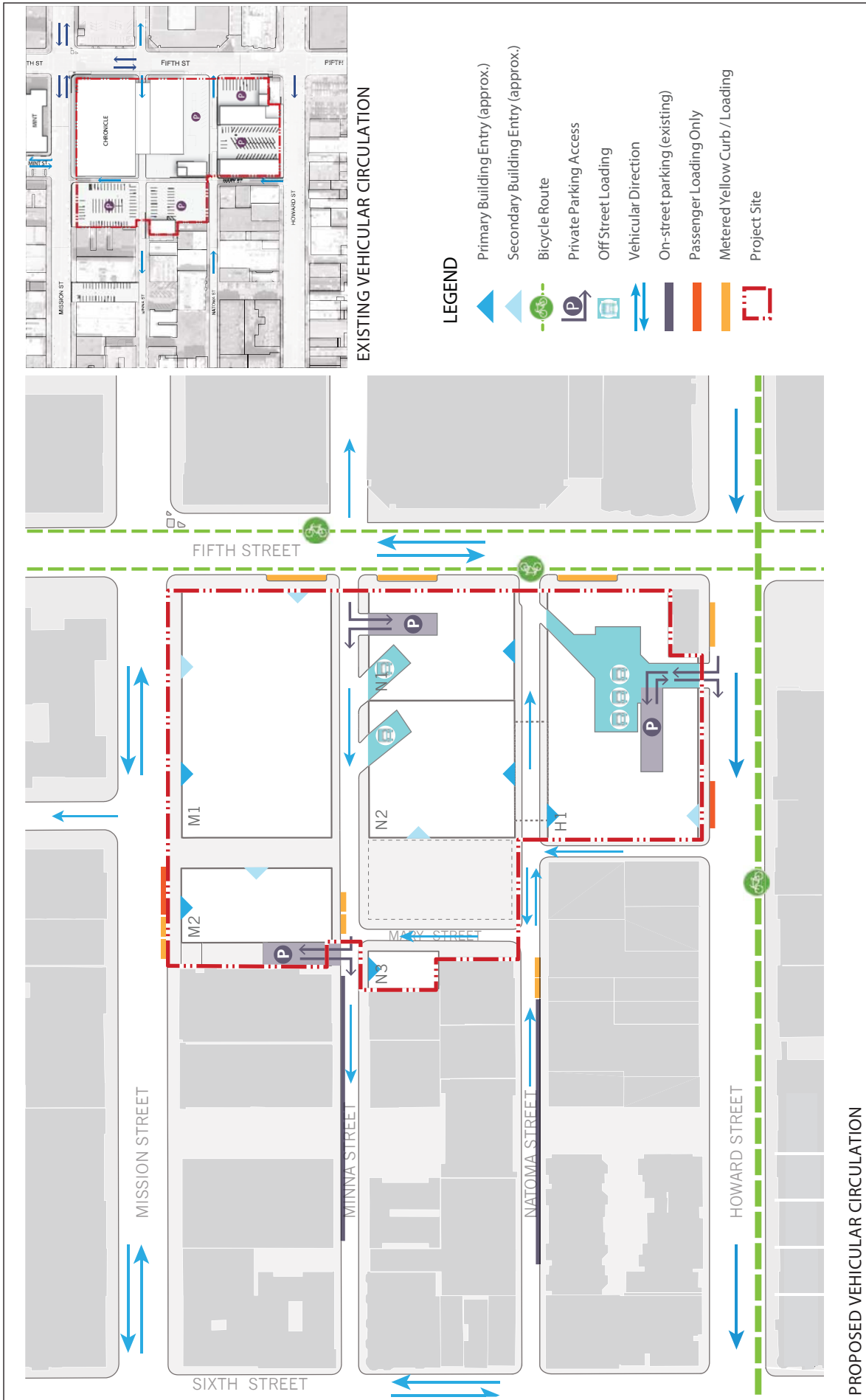


FIGURE II-19

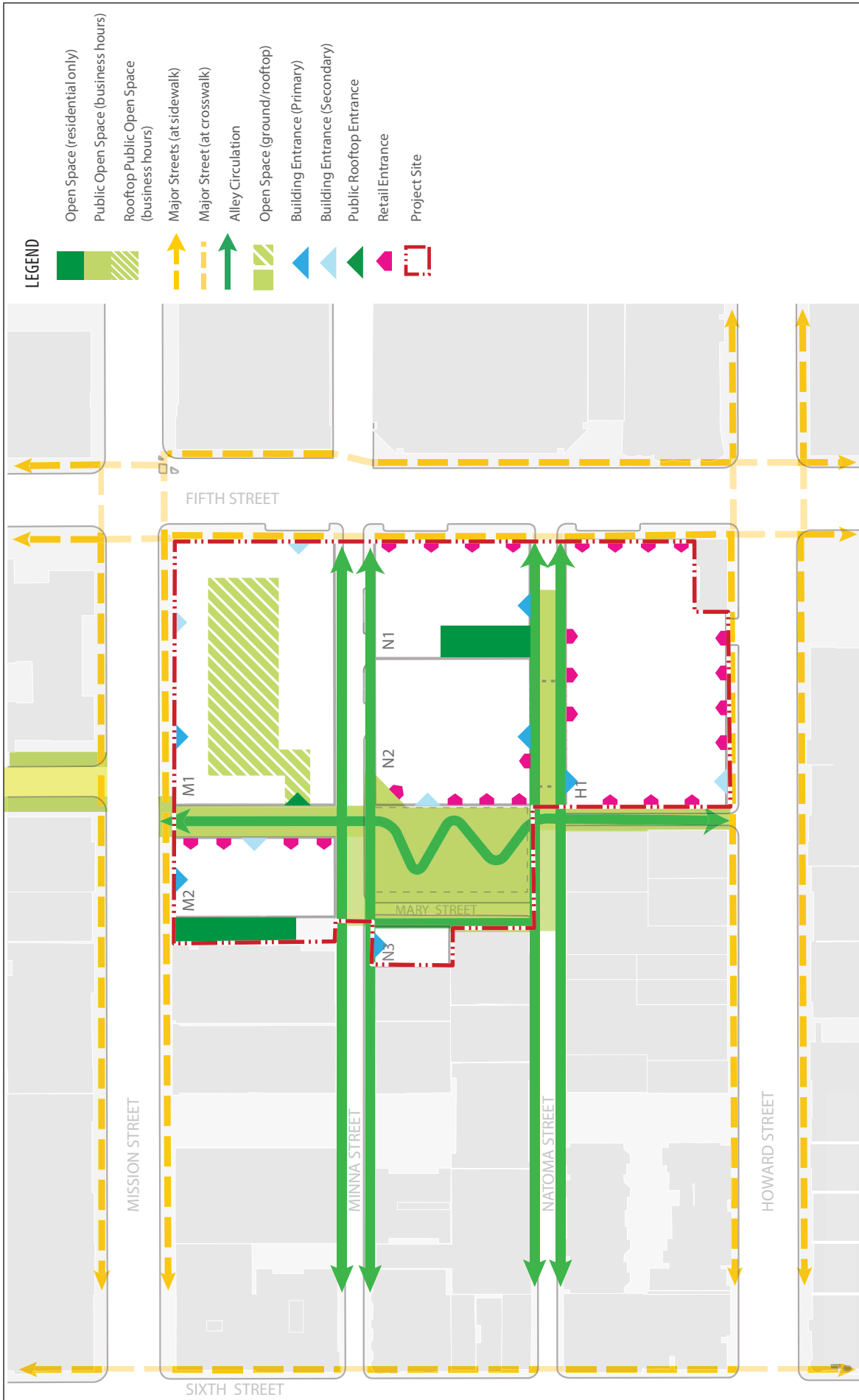
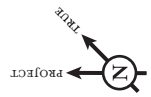


FIGURE II - 20



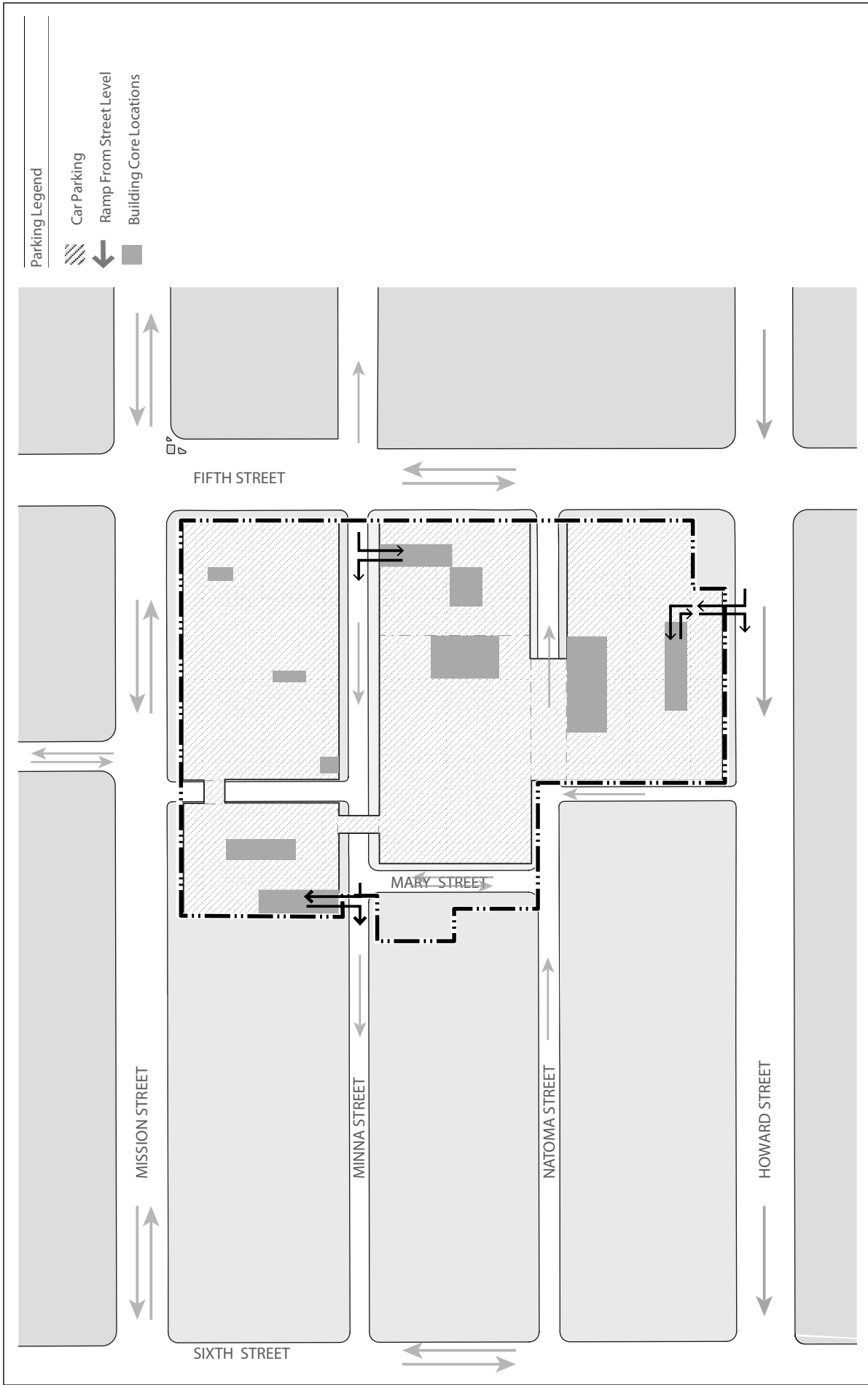
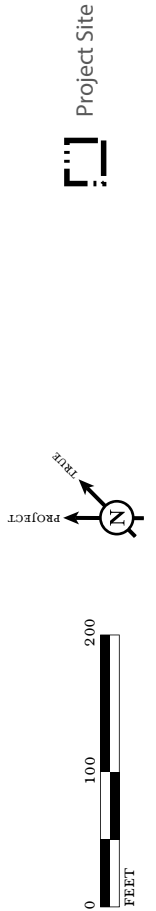


FIGURE II-21

5M Project EIR
 Vehicular Parking Plan -
 Lower Level 1



Project Site

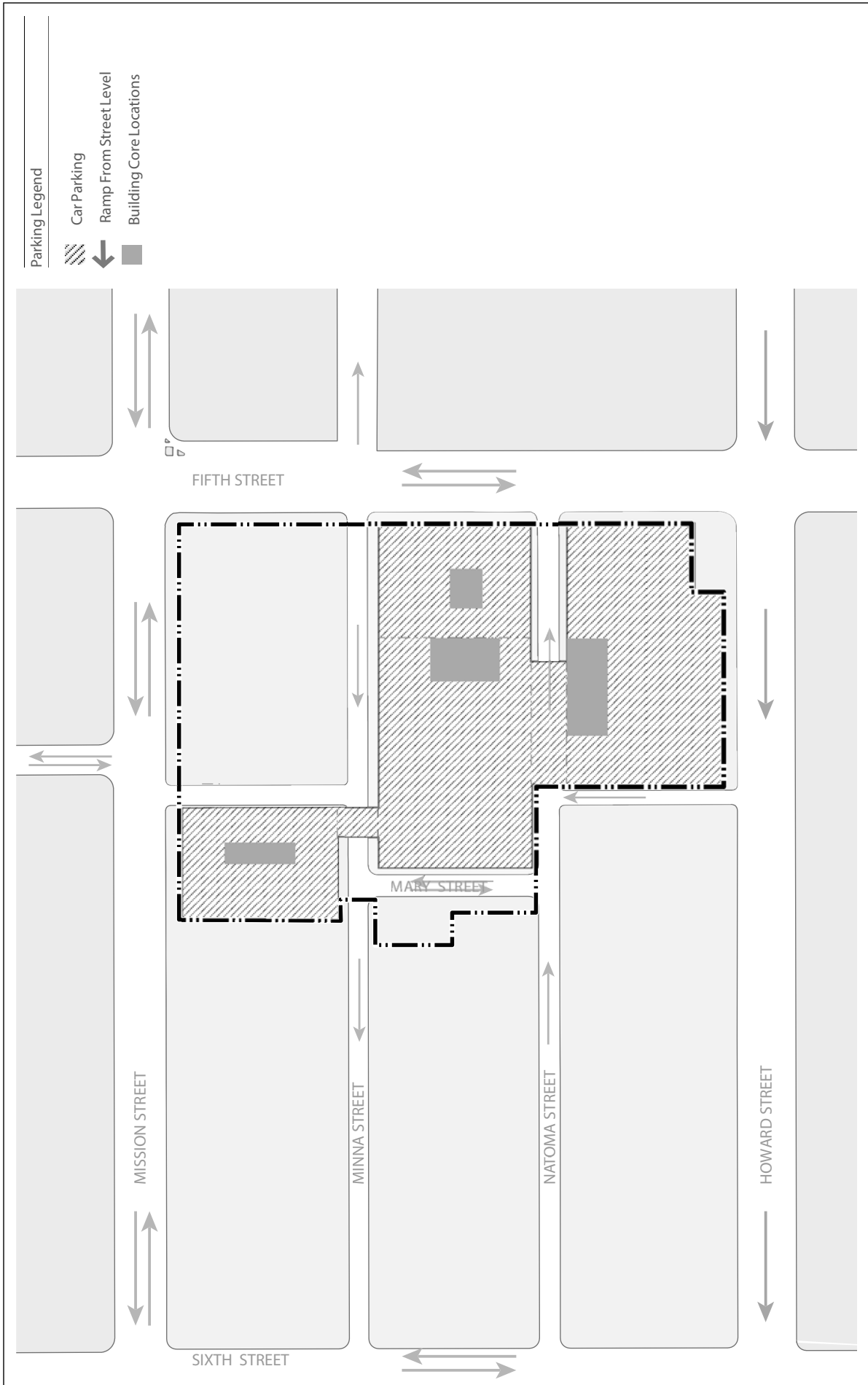


FIGURE II - 22

5M Project EIR
 Vehicular Parking Plan -
 Lower Levels 2-3

Bicycle Parking. The project would provide bicycle parking in the amounts required by the Planning Code. The Office Scheme would provide approximately 540 Class 1 bicycle parking facilities and 120 Class 2 bicycle racks. The Residential Scheme would provide 591 Class I bicycle parking facilities and 95 Class 2 bicycle racks.¹⁹ Bike parking facilities could be located on the ground floor or first basement level of project buildings, and would be located throughout the site in accordance with the Fifth and Mission SUD, including in plaza areas, building entries, and park space. Lockers and showers would also be provided in amounts required by the Planning Code and in locations pursuant to the Fifth and Mission SUD to encourage biking.

Loading. Proposed loading zones are shown in **Figure II-19**. Freight loading would occur at the ground level through an off-street drive-through between Howard and Natoma Streets in Building H-1, and off-street bays on Minna Street in Buildings N-1 and N-2. Service delivery vehicles would be directed below grade at the following basement locations: Buildings N-1 and N-2 (accessible via Howard Street).

Architecture and Design

According to the project's Design for Development document (D4D), the proposed project is intended to draw in both the diverse architectural character of SoMa and the density and height of Downtown to provide varied design with large floor plates and sufficient density to build community and attract and retain San Francisco's emergent urban companies. The resulting design standards and guidelines for the project reflect a range of building forms and heights with a continuum of floorplate sizes, with building mass and height concentrated along the eastern and southern portions of the site in Buildings N-1 and H-1 and an activated interior public realm of open spaces and pedestrian-friendly streets on the interior of the site, as reflected in **Figure II-6**. The project-specific design controls are described in

¹⁹ Per *San Francisco Planning Code Section 155.1, Bicycle Parking Definitions and Standards*, Class 1 bicycle parking facilities are those that protect the entire bicycle and accessories against theft and inclement weather. Examples of Class 1 facilities include lockers, check-in facilities, monitored parking, restricted access parking, and personal storage. Class 2 bicycle racks permit the bicycle frame and one wheel to be locked to the rack (with one u-shaped lock), and provide support to bicycles without damage to the wheels, frame, or components.

greater detail below, under Project Approvals, but are generally proposed to consist of the following: 1) Zoning Map and Planning Code text amendments, including a Special Use District (SUD) (together with confirming General Plan amendments) recommended for approval by the Planning Commission and approved by the Board of Supervisors, which establishes development controls governing major project elements such as permitted land uses, maximum allowable development, setbacks, height, building separation and bulk and massing controls, projections, open space, vehicle and bicycle parking, loading, and ground-level wind limits; and 2) the D4D document which would contain specific design standards and guidelines for buildings, streetscape, open space and other improvements, as well as other design regulations that would guide development of individual buildings and associated open space and streetscape uses. The Planning Commission would review and approve Conditional Use Authorizations for new development on the project site. The SUD would delegate review of individual site/building permit applications and detailed architectural plans to the Planning Director, who would review and approve them based on consistency with the SUD and D4D.

Canopies, Projections and Installations. The project proposes a variety of projections and canopies that would project over public rights-of-way. The size of the projections would range from 6 inches to 2 feet for architectural features of buildings, to up to 15 feet for canopies designed to address wind conditions. The SUD permits such projections and canopies consistent with the D4D. All projections on the project site would be subject to applicable encroachment permit requirements. The D4D allows for building, wall, and window installations incorporating projection or illumination.

Visual Simulations of Proposed Project

Visual simulations were prepared to illustrate the massing of the project from several viewpoints around the project site. These simulations are included in this EIR to provide additional information about the look of the project, and not to assist in the impact analysis. Representative viewpoints were selected by the Planning Department and include short- and long-range views that depict visual conditions within the vicinity after completion of the project. **Figures II-23 through II-26** show the location and visual simulations for each of the identified viewpoints. The simulations depict conceptual building massing and do not show specific architectural detailing. In addition, the visual simulations primarily depict the Office Scheme, since buildings associated with this development

program would be taller than the Residential Scheme. The visual simulations thus depict a worst-case, conservative depiction of the potential building form and massing on the site that would occur with the proposed project.²⁰ The staff report for the project approvals will include a detailed design submittal that includes architectural detailing.

Construction

The project sponsor indicates that project construction would be dictated by the market and demand for space, and would likely consist of concurrent construction of multiple buildings. Although there is no specific project phasing scheme, for purposes of environmental review, the proposed project is analyzed as two overlapping illustrative construction periods, as follows:

- Demolition of four existing buildings located at 910, 912, and 924–926 Howard Street, and 190 Fifth Street;
- Construction of Building M-2;
- Construction of Building H-1;
- Renovation of the interior layout of Building M-1 (Chronicle Building); and
- Renovation and rehabilitation of Building N-3 (Dempster Printing Building).

Commencement of construction/renovation of these five buildings is anticipated to begin in 2016 and extend over approximately 48 months. In 2019, and extending over approximately 60 months, the following remaining buildings are assumed to be demolished/constructed:

- Demolition of the existing Examiner Building at 110 Fifth Street, the existing two-story pedestrian connector between the Chronicle and Examiner Buildings, and the existing Camelline Building at 430 Natoma Street;

²⁰ Recently enacted amendments to CEQA (Public Resources Code Section 21099(d)(10) eliminate aesthetics as an impact that can be considered in determining the significance of physical environmental effects under CEQA for projects meeting certain criteria. Accordingly, this EIR does not contain a separate discussion of the topic of aesthetics. Visual simulations of the proposed project are provided for informational purposes only. See page 120 of Chapter IV, Environmental Setting and Impacts, for further discussion of Public Resources Code Section 21099.

- Addition of rooftop open space on Building M-1, with new public elevator and potential new staircase; addition of secondary façade entrances, windows and openings; interior structural and circulation changes; and upgrade and consolidation of mechanical, electrical and plumbing (MEP) systems.
- Construction of Building N-1; and
- Construction of Building N-2 (including the H-1/N-2 Connector).

A specific construction plan for the project has not been developed. However, for purposes of the analysis in this EIR, project construction is expected to entail the use of a mix of construction equipment typical of large development projects, including bulldozers, jackhammers, graders, and pile drivers.

PROJECT SETTING

Project

The project site is located in the southwest quadrant of Fifth and Mission Streets at the intersection of the Downtown and SoMa neighborhoods in San Francisco. The approximately 4-acre, 22-parcel project site is flat and developed with seven surface parking lots and the following eight buildings: 1) the three-story Chronicle Building (901–933 Mission Street), plus a five-story clock tower located at its northeast corner; 2) the three-story Examiner Building (110 Fifth Street); 3) the four-story Dempster Printing Building (447–449 Minna Street); 4) the two-story Camelline Building (430 Natoma Street), plus a partial third story at the northwest corner of the building; 5) the two-story Zihn Building (190 Fifth Street); 6) the two-story J.M. Kepner Building (910 Howard Street); 7) a three-story commercial building (924–926 Howard Street); and 8) a one-story industrial building (912 Howard Street). Please refer to **Figure II-2** for photographs of the project site, **Table II-1** for additional information on building size, use, and date of construction, and **Table II-7** for each of the building's zoning, height, and bulk designations. See **Figures II-27 and II-28** for a map of zoning and height/bulk districts in and around the project site.

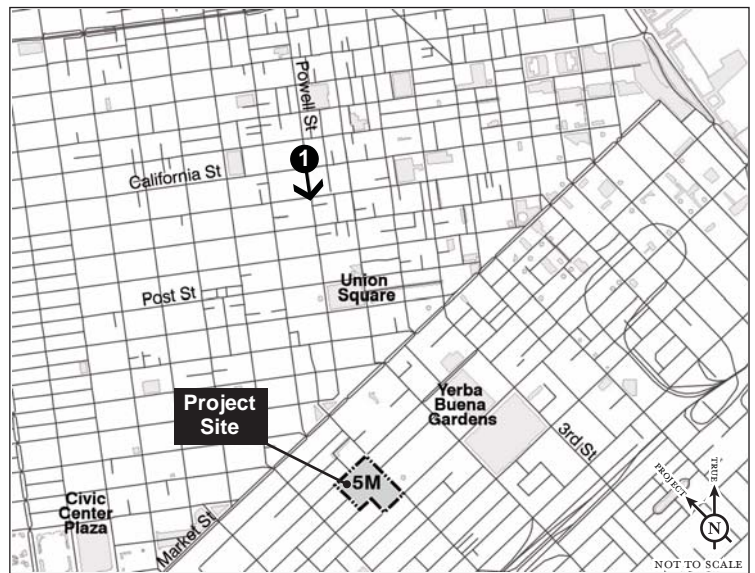
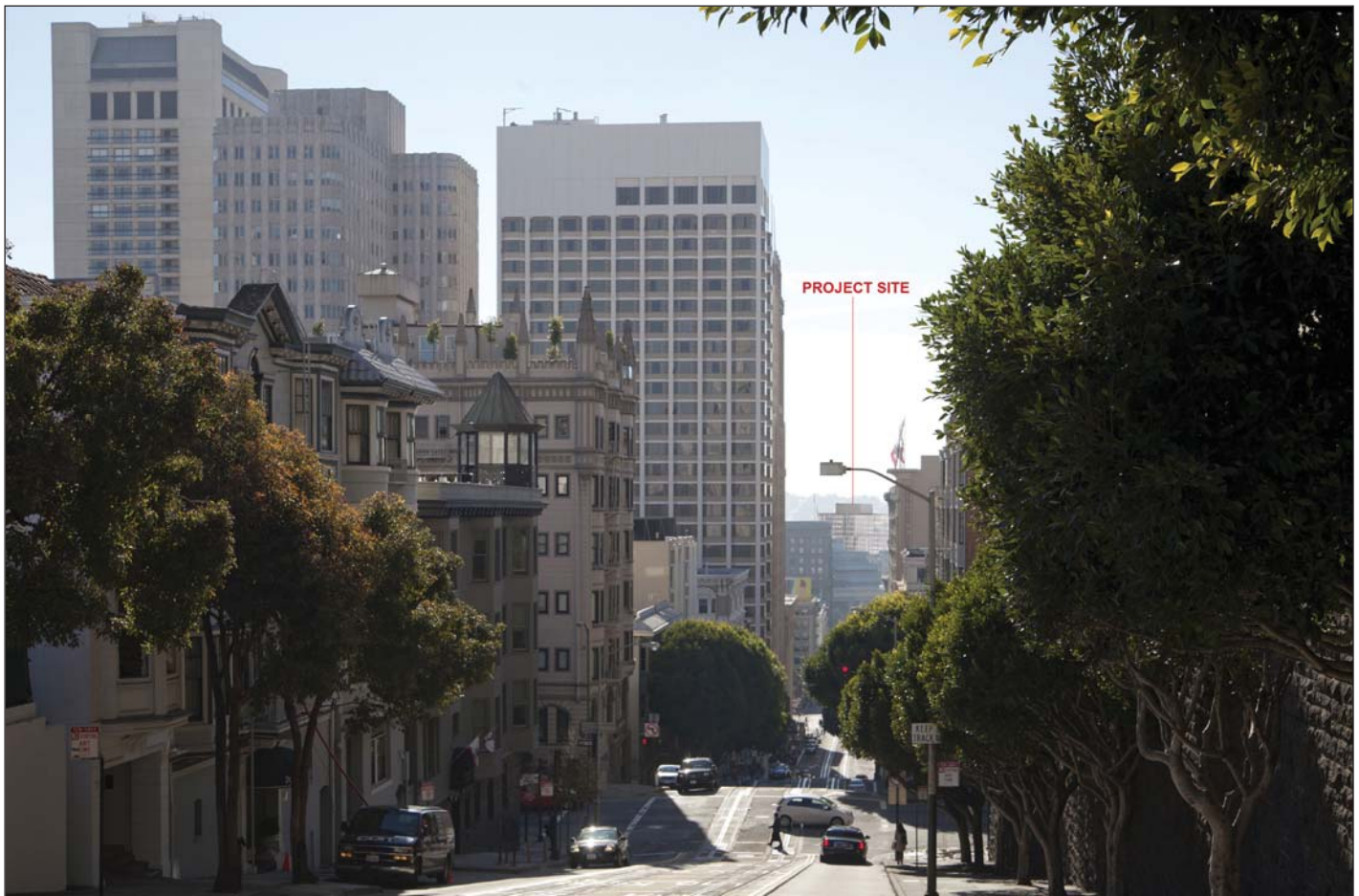


FIGURE II-23

5 Photograph Viewpoint Location and Direction

 Project Boundary

SOURCE: FOREST CITY, OCTOBER 2014.

5M Project EIR
Viewpoint 1 -
Powell and California Streets



View from Howard Street at Third Street looking southwest

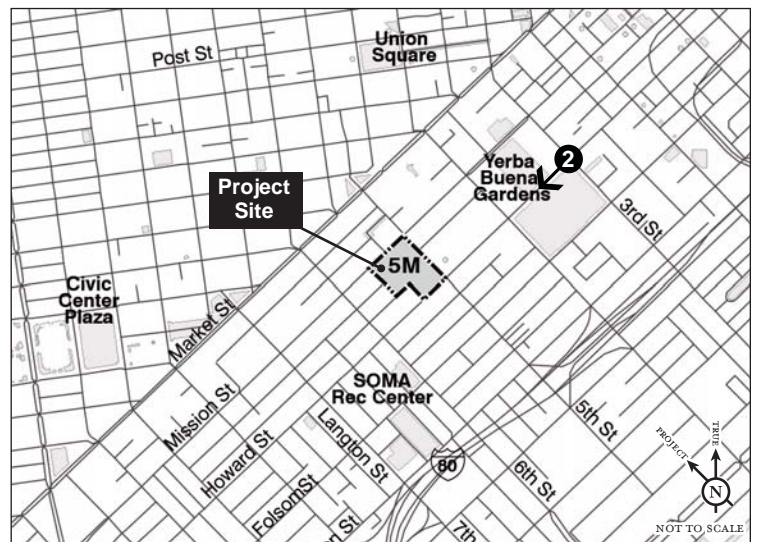


FIGURE II-24

5 Photograph Viewpoint
Location and Direction

5M Project Boundary

SOURCE: FOREST CITY, OCTOBER 2014.

5M Project EIR
Viewpoint 2 -
Howard and Third Streets



View from Vermont Street at McKinley Square Park (20th Street) looking north

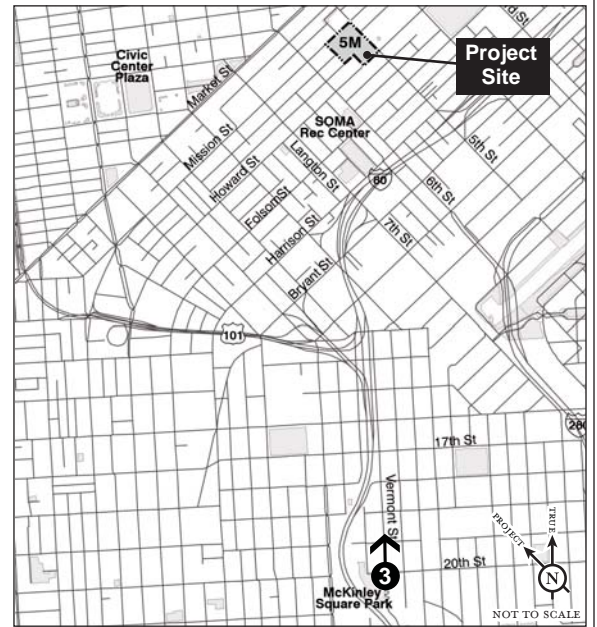


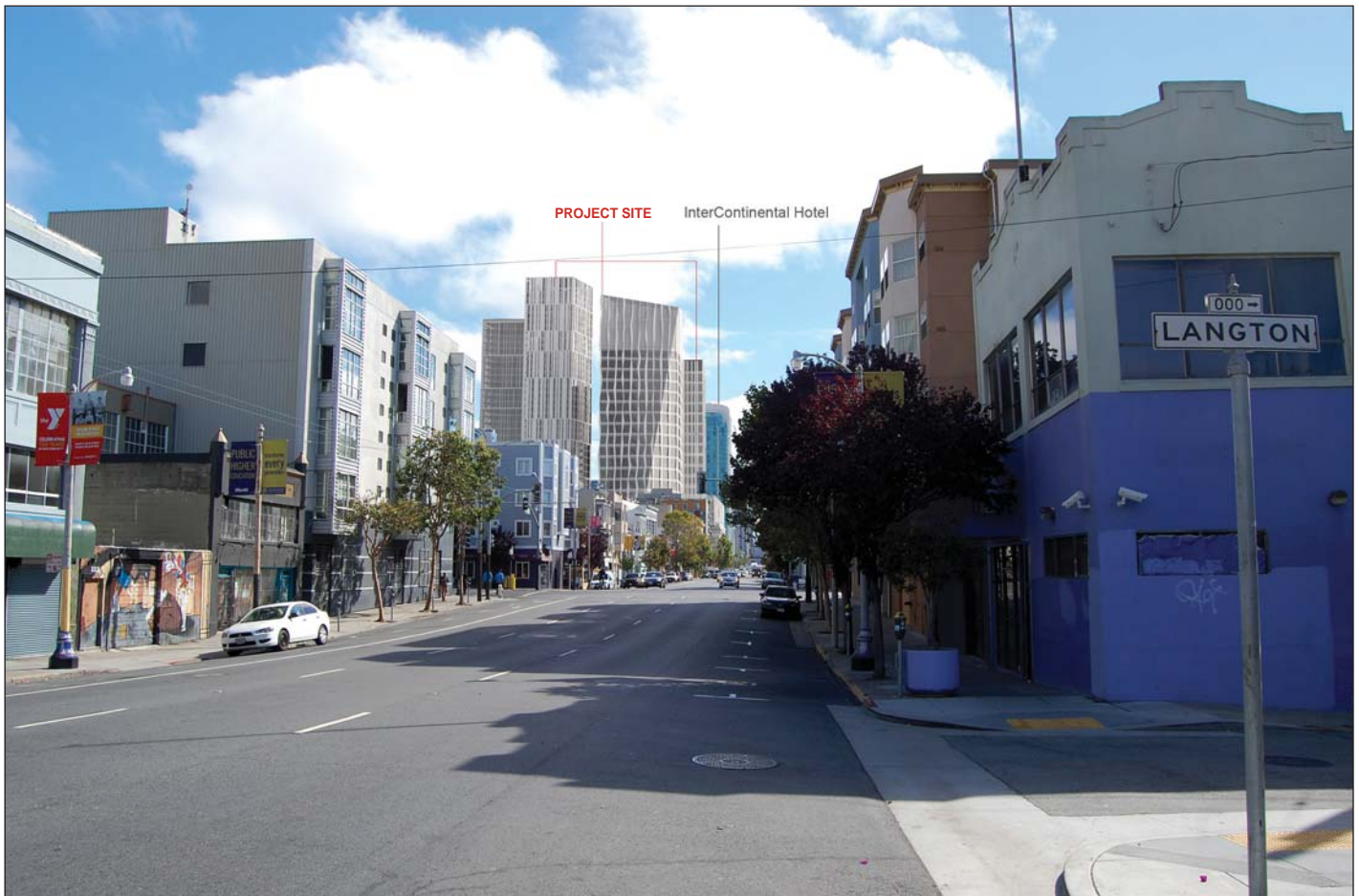


FIGURE II-25

-  Photograph Viewpoint Location and Direction
-  Project Boundary

5M Project EIR
Viewpoint 3 -
McKinley Square Park

SOURCE: FOREST CITY, OCTOBER 2014.



View from Howard Street at Langton Street looking northeast

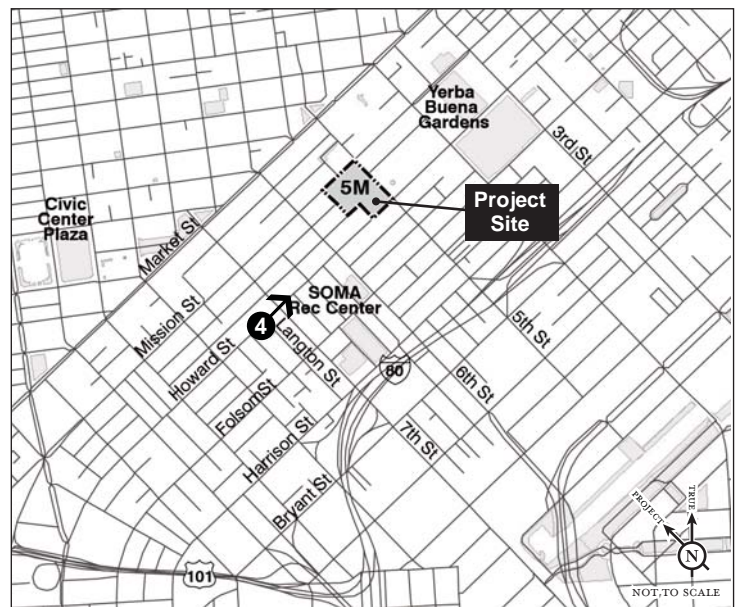


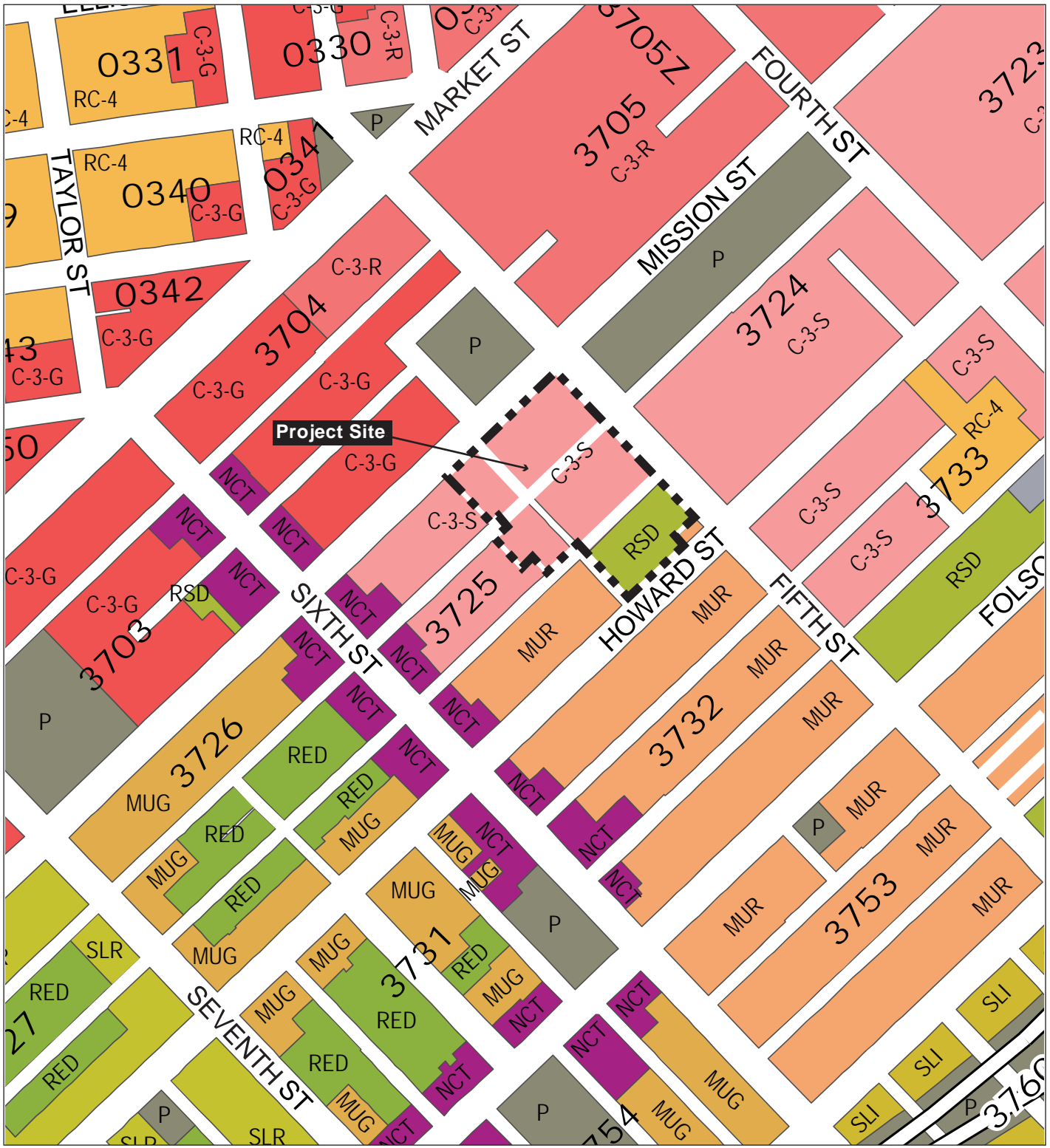


FIGURE II-26

-  Photograph Viewpoint Location and Direction
-  Project Boundary

SOURCE: FOREST CITY, JULY 2014.

5M Project EIR
Viewpoint 4 -
Howard and Langton Streets



USE DISTRICTS

- P** Public
- Residential**
- RC-4** Commercial Combined/High Density
- Neighborhood Commercial**
- NCT** Individual Named, Controls Vary

South of Market MU Districts

- RED** Residential Enclave
- RSD** Residential Service
- SLR** Service Lt Industrial/Residential
- SLI** Service Lt Industrial

Eastern Neighborhoods MU Districts

- MUG** Mixed Use, General
- MUR** Mixed Use, Residential

Commercial Districts

- C-3S** Downtown Support
- C-3R** Downtown Retail
- C-3G** Downtown General

Industrial Districts

- M-1** Light Industrial

Legend:

- Project Site** (Dashed box)
- 3725** Block Number

FIGURE II-27

5M Project EIR
Zoning Map

SOURCES: CITY & COUNTY OF SAN FRANCISCO; LSA ASSOCIATES, INC., 2012.

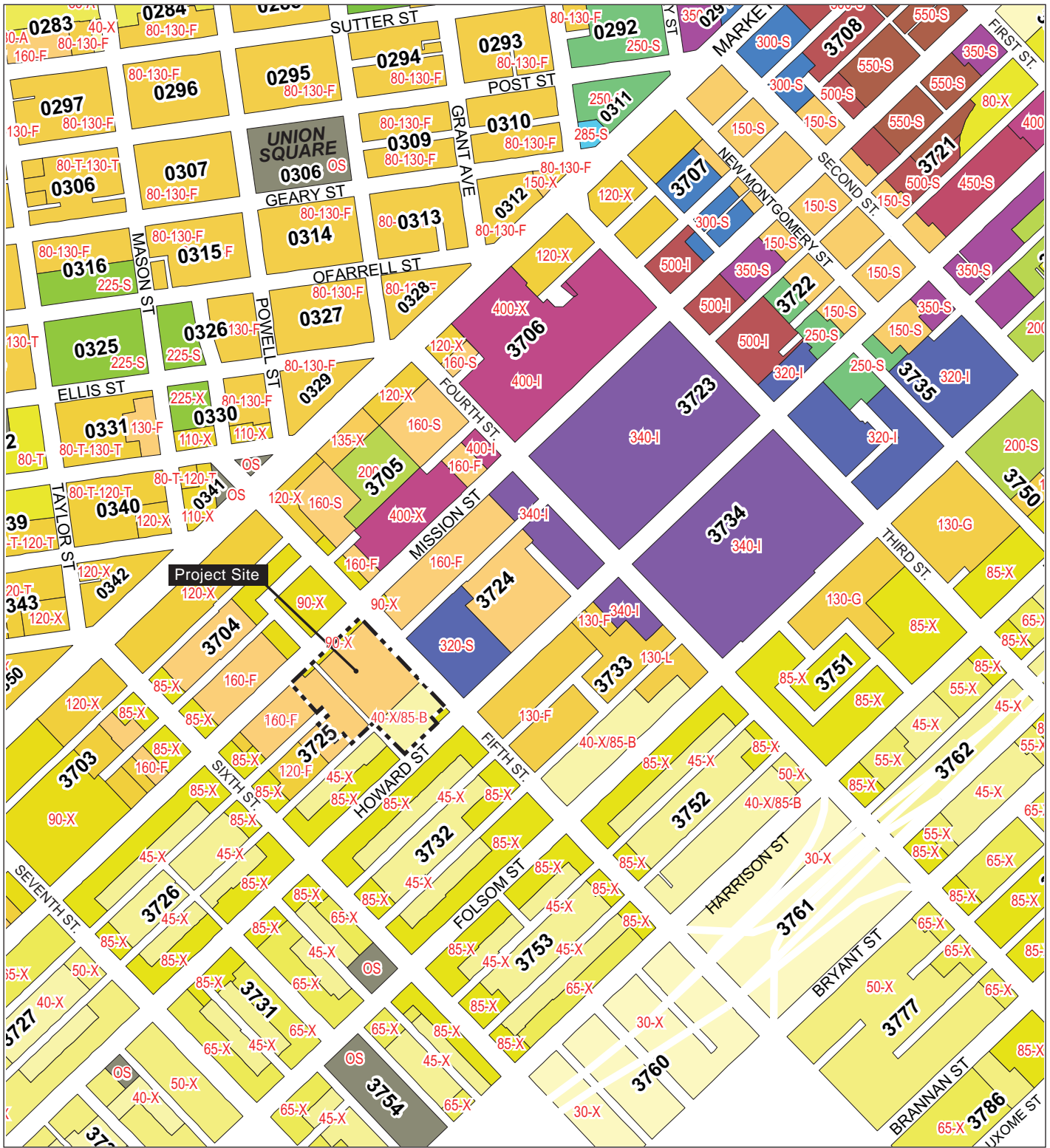


FIGURE II-28

Project Site (indicated by a dashed line on the map)

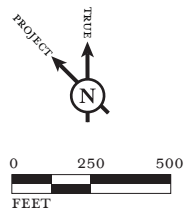
OS ← "Open Space" District

"Numbers" are Height Limits in feet. See Planning Code Section 250 and following.

"Letters" refer to Bulk Limits. See Planning Code Section 270.

00-Z-1 ← "Suffix Numbers" identify districts in which special regulations apply. See Planning Code Sections 263 and following.

3725 Block Number



5M Project EIR
Height and Bulk Districts

SOURCES: CITY & COUNTY OF SAN FRANCISCO; LSA ASSOCIATES, INC., 2012.

The segment of Mission Street adjacent to the project site is 80 feet in width and contains 12-foot-wide sidewalks on the northern side and 15-foot-wide sidewalks on the southern side. The segment of Fifth Street adjacent to the site is 85 feet in width and contains 10-foot-wide sidewalks on the eastern side and 13-foot-wide sidewalks on the western side. Howard Street adjacent to the site is 82 feet in width and contains 12-foot-wide sidewalks on the northern side and 12-foot-wide sidewalks on the southern side. Minna Street is 40 feet in width, and contains 9-foot-wide sidewalks on the northern side and 11-foot-wide sidewalks on the southern side. Natoma Street is 35 feet in width, and contains 6-foot-wide sidewalks on the northern side and 8-foot-wide sidewalks on the southern side. Mary Street, parallel to Fifth Street, is 20 feet in width and contains 4-foot-wide sidewalks on both sides, and per Planning Code Section 102.1, is an alley.²¹

Table II-7: Existing Building, Use District, and Height and Bulk Designations

Building Name and Address	Use District	Height and Bulk District
Chronicle Building (901–933 Mission Street)	C-3-S (Downtown Support)	160-F 90-X
Examiner Building (110 Fifth Street)	C-3-S (Downtown Support)	160-F
Camelline Building (430 Natoma Street)	C-3-S (Downtown Support)	160-F
Dempster Printing Building (447–449 Minna Street)	C-3-S (Downtown Support)	160-F
Zihn Building (190 Fifth Street)	RSD (Residential Services District)	40-X/85-B
J.M. Kepner Building (910 Howard Street)	RSD (Residential Services District)	40-X/85-B
Light Industrial Building (occupied by TechShop) (924–926 Howard Street)	RSD (Residential Services District)	40-X/85-B
Vacant Industrial Building (912 Howard Street)	RSD (Residential Services District)	40-X/85-B

Source: City and County of San Francisco, 2011.

²¹ All measurements are approximate and rounded to the nearest foot.

As described above, the site is located at the southern edge of Downtown San Francisco and at the northern edge of the East SoMa neighborhood. Other neighborhoods/planning areas that surround the project site include Yerba Buena, Transbay, and Rincon Hill to the east and West SoMa to the south and west.

Land uses in the vicinity of the site include hotel, retail, office, residential, convention, parking, and public facilities uses that typify Downtown San Francisco and its immediate surroundings in the SoMa neighborhood. North of the site, across Mission Street, land uses include those associated with the Old U.S. Mint Building (a National Historic landmark that is listed on the National Register of Historic Places) and Mint Plaza (Fifth and Mission Streets and 88 Fifth Street), including a pedestrian plaza, restaurants, cafes, and a multi-use performance venue, and the two-story S.F. Provident Loan Association building (66 Mint Street) (considered a historical resource for environmental review purposes).²² East of the project site, across Fifth Street, land uses include a seven-story parking garage, an office building, and the 32-story Intercontinental San Francisco Hotel (888 Howard Street). South of the project site, across Howard Street, land uses include one- to three-story mixed-use buildings and a project currently under construction. West of the site, adjacent to the Dempster Printing Building, land uses include one-to two-story light industrial-type buildings.

Major structures near the site include: the Intercontinental San Francisco Hotel; the Fifth and Mission Garage (833 Mission Street); the Hotel Pickwick (85 Fifth Street); Westfield Mall (865 Market Street); Moscone Center West (800 Howard Street); and the Old U.S. Mint Building. Parks and recreational spaces in the vicinity of the project site include the privately-owned Mint Plaza (located directly across Mission Street from the site) as well as publicly-owned facilities, including Hallidie Plaza (0.1 mile to the north of the site), Boeddeker Park (0.4 mile to the northwest of the site), Gene Friend Recreation Center Park (0.4 mile to the southwest of the site), Victoria Manalo Draves Park (0.5 mile to the southwest of the site), and Union Square (0.5 mile to the northeast of the site). Yerba Buena

²² This building was formerly referred to as the San Francisco Remedial Loan Association Building.

Gardens is located 0.3 mile to the east of the site and contains hotel, office, retail, convention, cultural, and public open space uses.

Cumulative Setting²³

The project site is located in an area where a number of future projects are reasonably foreseeable.

Table II-8 summarizes major planned projects known to the Planning Department in 2012 that are generally within the vicinity of the site (where impacts of reasonably foreseeable future projects may combine with project impacts to result in cumulative impacts).

Table II-8: Reasonably Foreseeable Projects in the Site Vicinity

Case Number	Address	Project Summary
2008.0877E	Western SoMa Community Plan	The Plan area is irregularly shaped and consists of two connected areas: one generally referred to as "north of Harrison Street," roughly bounded by Minna Street to the north, 13 th Street to the east, Bryant Street to the south, and Seventh Street to the west; and a second area, generally referred to as "south of Harrison Street," roughly bounded by Harrison Street to the north, Fourth Street to the east, Townsend Street to the south, and Seventh Street to the west. Key planning principles, which guide the land use policies in the Plan include: mitigate to the fullest extent possible neighborhood impacts resulting from new development; stabilize the neighborhood against speculative land use proposals and developments; promote safety in all areas of the public realm (e.g., streets, sidewalks, parks, etc.); maintain and encourage the existing cultural diversity of the community, and maintain and promote diversity (e.g., day/night, living/working, spectrum of uses, etc.) of neighborhood land uses.
2013.0154E	747 Howard Street (aka Moscone Center Expansion Project)	747 Howard Street would increase the gross square footage of the Moscone Center convention facility by about 20 percent, from approximately 1.2 million square feet to 1.5 million square feet. New construction would be primarily above grade both north and south of Howard Street in buildings up to approximately 95 feet tall. Additional space would be created by excavating and expanding the existing below-grade exhibition halls that connect the Moscone North and South buildings.

²³ The EIR will include an analysis of the potential impacts of the proposed project in the context of general City-wide population growth anticipated to occur in the foreseeable future, as well as development associated with the implementation of plans such as the proposed Central SoMa Plan (formerly the Central Corridor Plan).

Table II-8: Reasonably Foreseeable Projects in the Site Vicinity

Case Number	Address	Project Summary
2009.0291E	151 Third Street (aka SFMOMA Expansion Project)	151 Third Street would include an up-to-approximately 235,000 square foot expansion of the existing San Francisco Museum of Modern Art (SFMOMA), a private non-profit modern art museum, and the relocation of San Francisco Fire Department Station No. 1 (Fire Station No. 1) from 676 Howard Street to 935 Folsom Street. The existing building at 935 Folsom Street would be demolished and, in addition to construction of a new fire station fronting Folsom Street, a residential building containing up to 13 units would be constructed .
2008.1084E	706 Mission Street	Partial demolition and rehabilitation of Arson Mercantile Building into a new 42-story, 500-foot-tall building containing 185 dwelling units, retail space, and a 36,560-square-foot Mexican Museum. Project also includes purchase of adjacent Jessie Square Garage and approximately 260 of its parking spaces.
2011.0038E	250 Fourth Street	Demolition of an existing three-story office building and construction of a hotel with 220-guest bedrooms that would contain 78,000 square feet and be 119 feet tall.
2005.0759E	725 Harrison Street	Demolition of 141,600 square feet of improvements on six lots and construction of 572 new residential units, 10,000 square feet of retail/commercial space, and 656 parking spaces. Project would encompass six buildings, up to 85 feet in height, totaling 791,800 gsf.
2006.0444E	397 Fifth Street	Demolition of two existing buildings and surface parking lot and new construction of 24 residential units, 5,110 square feet of retail space, and 19 parking spaces. The new structure would be approximately 40 feet in height and four stories, and would contain 37,027 gsf.
2006.0679E	205 Shipley Street	Demolition of two existing commercial buildings and construction of a four-story, residential over commercial building, containing 51 residential units, 41 parking spaces, and 6,000 square feet of commercial space.
2009.0291E	935 Folsom Street	Demolition of an existing industrial building, site subdivision, and construction of both a 14,400 gsf, 13-unit residential building with 13 tandem off-street parking spaces and a 15,000 gsf City-owned Fire Station with 10 off-street parking spaces. The proposed Fire Station would be a replacement for Station 1 (676 Howard Street) that is scheduled for demolition under the SFMOMA expansion project (2009.0291E).
2005.0424E	465 Tehama Street	Construction of two four-story residential buildings on a to-be-subdivided lot with a 13-unit building fronting Tehama Street and a 12-unit building fronting Clementina Street.
2011.0119E	214 Sixth Street	Demolition of an existing 144-room hotel building and construction of a new mixed-use building with 56 affordable dwelling units, approximately 3,074 square feet of retail space, and 15 off-street parking spaces.
2011.0586E	363 Sixth Street	Demolition of an existing 12,396-square-foot industrial building and construction of an 8-story, 85-foot-tall mixed-use building. The proposed new building would include 64 dwelling units, 30 parking spaces, and 2,332 square feet of commercial space along Sixth Street.

Table II-8: Reasonably Foreseeable Projects in the Site Vicinity

Case Number	Address	Project Summary
2004.0588E	255 Seventh Street	Demolition of two buildings and construction of an affordable housing project with 49 dwelling units, 47 off-street parking spaces, and approximately 20,000 gsf to be used for an outpatient health clinic.
2007.1035E	350 Eighth Street	Seven-building mixed-use development containing 416 rental dwelling units in 384,000 square feet of building space, with 50,000 square feet of retail space, 8,700 square feet of industrial studio space, and 409 parking spaces below-ground on the site of the SoMa bus yard.
2005.1074E	935–965 Market Street	Demolition of three buildings and construction of a five buildings comprising 375,000 square feet of commercial and parking space.
2008.0197E	942 Mission Street (Hampton Inn San Francisco Downtown/ Convention Center)	Demolition of an existing two-story 25,000 square foot office and commercial building and construction of a 15-story, 87,265 square foot (172 room) hotel.
2007.0689E	900 Folsom Street	Construction of 269 dwelling units comprised of 160 studio/one-bedroom units and 109 two-bedroom units. The two-bedroom units include 29 townhomes and 8 units with accessory commercial space. The project would include 221 off-street parking spaces.

Note: The projects in this table are ones for which the Planning Department has received Environmental Evaluation or similar applications. These present and reasonably foreseeable projects are ones which may combine with the project to result in cumulatively considerable effects that will be discussed in the EIR as applicable.

Source: San Francisco Planning Department, 2012.

PROJECT APPROVALS

The proposed project would require the following approvals (by the designated authorities):

Planning Commission

1. Certification of the EIR.
2. Recommendations to the Board of Supervisors to approve the following *General Plan* Amendments:
 - Downtown Land Use and Density Plan Map (Map 1): reflect rezoning of RSD parcels to C-3-S and modification of floor area ratio (FAR) requirement;
 - Downtown Proposed Height and Bulk Districts Map (Map 5): reflect maximum building heights on the site ranging from 85 feet to 455 feet in height and change the corresponding bulk designations for the project site. Parcels would be zoned either “S” or “X.”

- Downtown Plan Figures 1 through 4, annotation concerning Project building bulk and tower separation.
 - South of Market Area Plan Generalized Land Use Map: reflect rezoning of RSD parcels to C-3-S;
 - South of Market Area Plan Density Plan Map: reflect rezoning of RSD parcels to C-3-S; and
 - South of Market Area Plan Height Plan Map: reflect rezoning of RSD parcels to C-3-S.
3. Recommendations to the Board of Supervisors to approve Zoning Map and Planning Code text amendments to create an SUD for the project site, to reclassify parcels with existing RSD zoning to the C-3-S District, and to allow changes in the height and bulk classifications.
 4. Approval of the Fifth and Mission Design for Development document.
 5. Conditional Use Authorization(s) for compliance with SUD/D4D (in place of Planning Code Section 309 Determination of Compliance), for buildings (and related improvements) within the project site.
 6. Raising of the absolute cumulative shadow limits for Boeddeker Park pursuant to Planning Code Section 295 (joint action with Recreation and Park Commission).
 7. Authorization of office space under Proposition M of the Planning Code.
 8. Recommendation to approve a Development Agreement under Administrative Code Chapter 56, addressing issues such as project vesting, phasing, fees and exactions and other public benefits.
 9. General Plan Referral for sidewalk widening, major encroachment.

Historic Preservation Commission

10. Permit to Alter (Planning Code Article 11), as needed, for potential exterior seismic retrofit/rehabilitation of the Dempster Printing Building.

Department of Public Works

11. Recommendation of street vacation of Mary Street
12. Recommendation of vacation of Natoma Street air space parcel.
13. Approval of parcel mergers and new subdivision maps.
14. Recommendation of approval of Major Encroachment Permits.
15. Recommendation of approval of sidewalk widening legislation.
16. Authorization of street tree removal.²⁴

San Francisco Municipal Transportation Agency

17. Approval of directional changes for Mary Street and pedestrian-only segments of Mary Street.
18. Approval of left turn restriction from Fifth Street (northbound) onto Minna Street (westbound).

Department of Real Estate

19. Recommendation of approval of street transfer agreement.

Board of Supervisors

20. Approval of *General Plan*, Zoning Map, and Planning Code text amendments.
21. Authorization of street vacation and approval of transfer agreement.
22. Approval of Major Encroachment Permit(s).
23. Approval of sidewalk widening legislation.
24. Approval of development agreement.

²⁴ As discussed in the Initial Study, there are two significant trees within the site, three significant trees adjacent to the site, and 10 street trees that could be affected by the project. The proposed project would likely remove all of these trees, subject to DPW review and approval.

Building Department

25. Approval of site/building permits and demolition permits.

SUD and D4D. A special use district, the Fifth and Mission SUD, to be recommended for approval by the Planning Commission and approved by the Board of Supervisors together with conforming General Plan and Zoning Map amendments, would be conterminous with the project site and would establish development controls governing major project elements such as permitted land uses, maximum allowable development, setbacks, height, building separation and bulk and massing controls, projections, open space, auto and bicycle parking, loading and ground level wind limits. The Planning Commission would adopt a D4D containing specific design standards and guidelines for buildings, streetscape, open space and other improvements, as well as other design regulations that would guide development of individual buildings and associated open space and streetscape uses. The Planning Commission would review and approve Conditional Use Authorizations for new development on the project site. The SUD would delegate review of subsequent individual site/building permit applications and detailed architectural plans to the Planning Director, who would review and approve them based on consistency with the SUD and D4D.

Amendments to the City's General Plan and Planning Code would be proposed to implement the Fifth and Mission SUD and D4D. See Chapter III, Plans and Policies, for additional detail. Specifically, the SUD proposes amendments to existing code provisions at the project site relating to:

- **Building Bulk:** revises base height limits for the District to permit 103-foot base heights in 200-X, 455-S, and 180-S districts; provides specific bulk controls (maximum length, maximum diagonal and maximum floor area) for 420-X bulk district; applies S-bulk requirements to 180-X district, with maximum diagonal of 205 feet.
- **FAR:** permits FAR to be measured as a district-wide average, and sets a maximum FAR of 11:1.
- **Dwelling Density:** Removes dwelling unit density limitations so long as at least four units per residential floor are provided.

- ***Upper Level Setbacks for Buildings above 145 Feet:*** provides a 75-foot tower separation standard for portions above 145 feet, in lieu of upper level setback requirements in Planning Code Section 132.1(d).
- ***Projections and Canopies:*** permits non-occupiable architectural features and wind-baffling features as set forth in the D4D.
- ***Open Space Requirements:*** permits location of residential open space anywhere within the district so long as at least 15% of all required open space shall be exclusively for residential use and located within or adjacent to buildings containing residential use; and clarifies that the district is a mixed use nonresidential/residential project for the purposes of Section 138(g) of the Planning Code.
- ***Off-Street Parking:*** permits location of accessory parking designated for commercial and residential uses in a subterranean garage beneath one or more buildings within the district; permits up to 0.5 spaces for every residential unit within the district (to permit calculation of parking limits on a site-wide basis).
- ***Off-Street Loading:*** permits off-street loading locations as identified in the D4D; permits off-street loading openings within the district to be 27 feet if including a 5-foot-wide bicycle lane, a combined automobile parking and freight loading opening of up to 30 feet on the Howard Street frontage, and two loading openings of up to 25 feet on Minna Street.
- ***Ground Floor Land Uses:*** in addition to all ground floor uses permitted in the C-3-S district, permits office uses on the ground floor with requirements for transparency and with a minimum amount of street-facing frontage required to be fenestrated.
- ***Streetscape Improvements:*** exempts the project from streetscape and street tree planting requirements of Section 138.1(c) instead applies streetscape improvements and street tree plantings in accordance with the D4D.
- ***Bicycle Parking:*** permits Class 1 and Class 2 bicycle parking in locations identified in the D4D; permits Class 1 parking on the ground floor or first subterranean parking floor; permits consolidation of non-residential Class 1 spaces and all Class 2 spaces within the district with certain requirements for the number and location of consolidated parking

areas; permits provision of shower and locker facilities on a district-wide basis so long as they remain accessible and free of charge to commercial tenants and employees.

- ***Ground Level Wind Limitations:*** provides a specific methodology for reviewing ground level wind limitations in the district and addressing exceedance of pedestrian comfort limitations.
- ***Artworks:*** permits artworks required under Section 429 of the Planning Code to be located throughout the district.
- ***Signage:*** permits wayfinding signage of certain maximum height and size within the district.
- ***Transferrable Development Rights:*** prohibits the sale of transferrable development rights from any property within the district.

The D4D would provide standards and guidelines for the following:

- Public Realm & Streetscape Improvements, including:
 - Planting
 - Site furnishings
 - Paving
 - Lighting
- Circulation and Connectivity
- Streets and Alleys
- Building Form & Massing
- Architectural Design for Existing Structures
- Architectural Design, including:
 - Building Treatments
 - Buildings Treatments at Pedestrian Level
 - N2-H1 Connector

- Architectural Projections and other Details
- Roofs
- Private and Public Open Spaces
- Circulation and Transportation, including:
 - Bicycle Storage and Support locations and types
 - Car Parking and Car Share
 - Loading and Services
- Systems and Sustainability

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III. PLANS AND POLICIES

This chapter provides a summary of the relevant plans and policies of the City and County of San Francisco (City) that are applicable to the proposed project and focuses in particular on the project's potential inconsistencies with applicable plans and policies that could result in environmental impacts. Because the Office and Residential Schemes would be substantially similar in terms of the proposed overall square footage, building configuration, and other improvements and would only differ in the mix of residential and office space provided, both schemes are analyzed in this chapter as the proposed project – except where policy conflicts may differ between the two schemes. In those cases, the two schemes are analyzed individually.

The determination of whether a project is consistent with a specific plan or policy can be subjective, and is best made with a broad understanding of the often-competing policy objectives in a planning document. As a result, policy consistency determinations are ultimately made by the City's local decision-making body (i.e., Planning Commission and/or Board of Supervisors). This consideration of policies would occur independent of the environmental review process, as part of the decision to approve or reject the project. The analysis in this chapter is intended to provide decision-makers with a discussion of planning considerations that are pertinent to the proposed project and associated development site, and a preliminary conclusion regarding whether the project may be inconsistent with identified plans and policies. These preliminary conclusions are intended to supplement decision-makers' own understanding of the various and often-competing policy considerations.

Furthermore, a policy inconsistency is considered significant pursuant to CEQA only when it would result in a significant, adverse physical environmental impact. The potential instances of such conflicts are discussed in the topical sections of this EIR.

The main documents that guide planning and land use within and around the project site that are discussed in this chapter are:

- San Francisco General Plan, including:
 - Downtown Area Plan
 - South of Market Area Plan (SoMa Area Plan)
- South of Market Redevelopment Plan (SoMa Redevelopment Plan)
- Draft Central SoMa Plan (Central Corridor)¹
- San Francisco Planning Code
- Proposition M, The Accountable Planning Initiative
- Sustainability Plan
- Climate Action Plan
- Better Streets Plan
- Transit First Policy
- Bicycle Plan

Figure III-1 shows the project site in the context of major area-wide planning efforts.

Environmental plans and policies are those, like the *Bay Area 2010 Clean Air Plan*, which directly address environmental issues and/or contain targets or standards that must be met in order to preserve or improve the characteristics of the City's physical environment. The proposed project would not obviously or substantially conflict with any such adopted environmental plan or policy. Resource-specific and regional plans and policies are discussed in specific topical sections of this EIR (e.g., Air Quality), as appropriate.

¹ The Draft Central SoMa Plan is currently undergoing environmental review and plan refinement ; it has not been adopted.

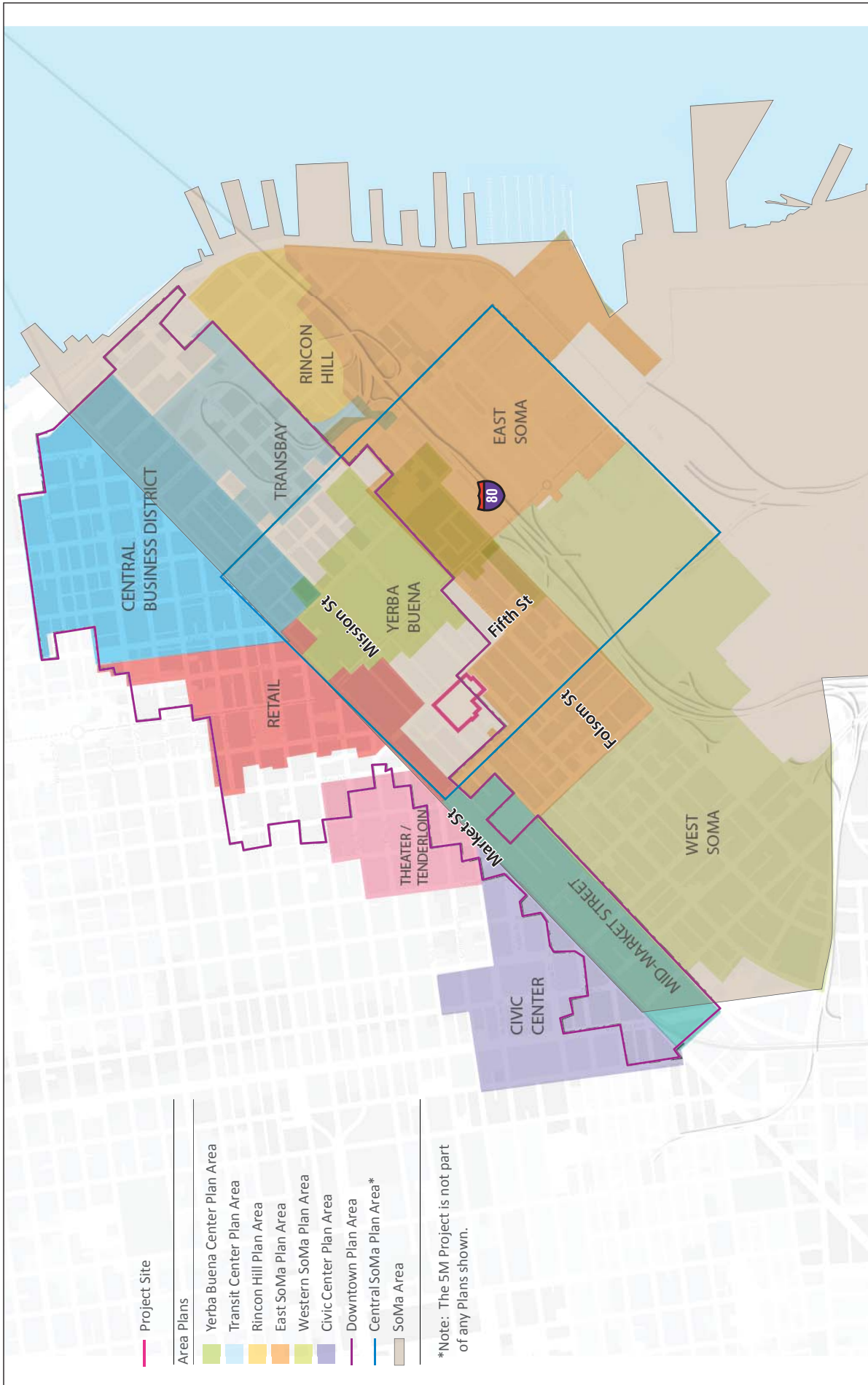
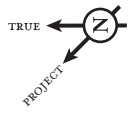


FIGURE III-1



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SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan provides general policies and objectives to guide land use decisions in the City, and embodies the City's vision for the future physical development of San Francisco. The General Plan comprises ten elements (each of which pertains to a particular topic or resource area that is important throughout the City). The elements include: Air Quality; Arts; Commerce and Industry; Community Facilities; Community Safety; Environmental Protection; Housing; Recreation and Open Space; Transportation; and Urban Design. These elements provide a policy context for future development in the City. In addition, the General Plan includes area plans that outline goals and objectives for specific geographic and community planning areas (such as the Downtown Area).

The Planning Department, Zoning Administrator, Planning Commission, Board of Supervisors, and other City decision-makers will evaluate the proposed project in the context of the General Plan, and as part of this review process will consider potential conflicts. This consideration of General Plan objectives and policies would occur independent of the environmental review process, as part of the decision to approve or reject the proposed project. Any potential conflict not identified in this EIR would be considered in that context and would not alter the analysis of physical environmental impacts found in this EIR.

Three General Plan elements that are particularly applicable to planning considerations associated with the proposed project are the Commerce and Industry, Urban Design, and Housing elements. These elements are discussed in detail below. Other elements of the General Plan that are applicable to technical aspects of the proposed project include the Air Quality, Community Facilities, Community Safety, Housing, Recreation and Open Space, and Transportation Elements. The project's consistency with the individual policies contained in these more technical elements is discussed in the appropriate topical sections of this EIR.

The Commerce and Industry Element addresses the broad range of economic activities, facilities, and support systems that constitute San Francisco's employment and service base. The Commerce and Industry Element seeks to promote continued economic vitality, social equity, and environmental

quality. The proposed project would not obviously conflict with any goals, objectives, or policies of the Commerce and Industry 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. The Urban Design Element also seeks to protect public views of open space and water bodies, and protect and enhance the aesthetic character of San Francisco. Potential conflicts with Urban Design Element policies are discussed below, beginning with identification of applicable policies for which the project may conflict.

- Policy 2.4: Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

Implementation of the proposed project would result in the demolition of the Camelline Building located at 430 Natoma Street, considered a historical resource under CEQA due to its eligibility for listing in the California Register under Criterion 3 (architecture). Therefore, demolition of the Camelline Building could potentially conflict with Policy 2.4. Associated physical environmental impacts are discussed in Section IV.C, Cultural and Paleontological Resources.

- Policy 2.8: Maintain a strong presumption against the giving up of streets areas for private ownership or use, or for construction of public buildings.

As part of the proposed project, the City would vacate Mary Street between Minna and Natoma Streets and the street would be re-aligned through dedication to the City of a new alignment approximately 75 feet west of the existing right-of-way along the western boundary of the site (the vacated right of way would become part of the Mary Court open space). The relocated segment of Mary Street would be off-set from the newly created North Mary Street Pedestrian Alley (between Mission and Minna Streets) and Mary Street between Natoma and Howard Streets. The relocated Mary Street between Minna and Natoma Streets would be 32 feet wide (12 feet wider than the existing right-of-way), include 10-foot sidewalks on both sides, include one lane for northbound traffic, and would accommodate vehicular and bicycle circulation. The realigned Mary Street segment

would be a shared public right-of-way and Mary Street between Natoma and Howard Streets would remain unchanged.

The vacated right-of-way portion of Mary Street would become part of the public Mary Court open space. The North Mary Street Pedestrian alley would also continue to be a public right-of-way. In addition, realignment of the street would not result in any significant impacts to the circulation system (see Section IV.D, Transportation and Circulation). Therefore, vacation of the segment of Mary Street and conveyance to the project sponsor, together with dedication of the newly aligned Mary Street segment between Minna and Natoma Streets, would not substantially conflict with Urban Design Policy 2.8, or any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The project would also require General Plan map amendments to reflect the rezoning of the RSD parcels in the southern portion of the project site to the C-3-S District, and modification of the existing FAR requirement (refer to Chapter II, Project Description for a complete overview of the requested project approvals). As discussed under “San Francisco Planning Code,” below, the proposed project would establish the Fifth and Mission Special Use District (SUD), which would provide development standards for land uses, maximum allowable development, building height, and bulk and massing controls, and other design elements. The SUD would impose specific design standards on the proposed buildings in order to break up the perception of bulk on building exteriors. These design standards would include those related to the development of multiple towers, the establishment of a minimum distance between building towers, and the use of varied architectural treatments. Please refer to “San Francisco Planning Code” for additional discussion of the policy considerations associated with the amendments to General Plan maps that would be required to reflect the proposed rezoning and adjustment to the FAR requirements.

The 2009 Housing Element Update was originally adopted by the Planning Commission in March 2011 and certified by the California Department of Housing and Community Development (HCD) in July 2011.² The key objective of the 2009 Housing Element is to promote the development of new housing in San Francisco and the retention of existing housing in a way that is protective of neighborhood identity, sustainable, and is served by adequate community infrastructure. A particular focus of the Housing Element is on the creation and retention of affordable housing, which reflects intense demand for such housing, a growing economy (which itself puts increasing pressure on the existing housing stock), and a constrained supply of land (necessitating infill development and increased density). In general, the 2009 Housing Element supports projects that increase the City's housing supply (both market-rate and affordable housing), especially in areas that are close to the City's job centers and are well-served by transit. The proposed project, which is a mixed-use project containing housing, would not obviously conflict with any objectives or policies in the Housing Element.

Downtown Area Plan

The majority of the project site is located within the boundaries of the Downtown Area Plan (Downtown Plan), which is a part of the San Francisco General Plan. The Downtown Plan area is irregularly shaped, generally bounded by Washington Street on the northeast; The Embarcadero on the east; Folsom Street on the south; and Van Ness Avenue on the northwest. The Downtown Area Plan was designed to promote development in Downtown that sustains the neighborhood as a commercial, employment, and visitor center while protecting the area's existing housing stock. The Downtown Area Plan places particular emphasis on reducing the use of private vehicles in favor of enhancing travel by bicycle, foot, and public transit. The Plan also promotes the development of different kinds of open space throughout Downtown, including a series of linked spaces around the high-density Downtown core. One of the fundamental concepts of the Downtown Plan is the

² Pursuant to a court order, the 2011 certification was set aside and a partially Revised Environmental Impact Report (Revised EIR) for the 2004 and 2009 Housing Element was later certified by the Planning Commission on April 24, 2014. No changes were made to the objectives or policies contained within the Housing Element as a result of this action.

expansion of the City's downtown office core south from its traditional center north of Market Street. The proposed project would not obviously conflict with most of the objectives or policies in the Downtown Plan, with two exceptions, as discussed below.

As discussed on pages 145 and 146 of Section IV.A, Land Use, the project would introduce new mid- and high-rise buildings to the area that are generally taller and larger than other buildings in the vicinity. Therefore, the proposed project may conflict with Policy 13.1 of the Downtown Plan:

- Policy 13.1: Relate the height of buildings to important attributes of the city pattern and to the height and character of existing and proposed development.

As noted under the discussion of General Plan Urban Design Element Policy 2.4, implementation of the proposed project would result in the demolition of the Camelline Building located at 430 Natoma Street, a historical resource under CEQA. Demolition of the building could also conflict with Policy 12.1 of the Downtown Area Plan, which is similar to Urban Design Element Policy 2.4. Associated physical environmental impacts are discussed in Section IV.C, Cultural and Paleontological Resources.

- Policy 12.1: Preserve notable landmarks and areas of historic, architectural, or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

South of Market Area Plan

The portion of the project site that has an RSD use district designation is currently located within the boundaries of the South of Market Area Plan, which is part of the San Francisco General Plan. The Plan area is irregularly shaped, generally bounded by Mission, Stevenson, and Natoma Streets on the north; Essex Street on the east; Townsend and Bryant Streets on the south, and 13th Street on the west. The SoMa Area Plan contains a comprehensive analysis of the physical, social, cultural and economic conditions and forces within the area. The Plan identifies existing community characteristics, problems, and amenities, as well as the types of development pressures and market forces that may affect the SoMa area over a 20-year period (roughly from 1995 to 2015).

In recent years, the SoMa Area Plan has been supplemented with additional area plans covering geographic areas in SoMa that are facing specific development pressures, widespread changes in land use, or other planning issues. These plans include the East SoMa Area Plan and Western SoMa Community Plan (both approved), and the Central SoMa Plan, which is currently in draft form. All three plans are discussed in this section. As the area approaches the outer limit of the study timeline covered by the SoMa Area Plan (2015), it is expected that the three recent SoMa area plans will provide more timely guidance for development in the area. In addition, the SoMa Area Plan generally excludes areas zoned C-3. The portion of the project site that is immediately adjacent to the SoMa Area Plan would be rezoned from RSD to the C-3-S District, thus further limiting the applicability of the Plan to the proposed project. The proposed project would not obviously conflict with the overall policy initiatives of the SoMa Area Plan in that the project would result in redevelopment of the site with a mixture of uses, including residential and active ground floor retail uses.

The following policies would be relevant to the RSD-zoned parcel, which is proposed to be rezoned to C-3-5, and are included as context only regarding other nearby parcels which are within the SoMa Area Plan.

- Policy 7.1: Establish height and building intensity limits for new development which would preserve the existing scale and strengthen the physical form of areas appropriate for new development, enhance the character of adjacent landmark buildings, maintain sun exposure to open space resources, and preserve view corridors.
- Policy 7.4: Preserve individual architecturally and/or historically significant buildings which contribute to the area's identity, give visual orientation, and which impart a sense of continuity with San Francisco's past.

The project is within the Downtown Area and within the proposed Central SoMa Plan (discussed below), which both generally encourage taller building heights and increased densities as compared to the SoMa Area Plan. Although the project would rezone the RSD parcel, the rezoning would be generally consistent with the proposed designation under the draft Central SoMa Plan. The Camelline Building is outside the boundaries of the SoMa Plan Area and its demolition is not subject to the policies of the SoMa Area Plan. Therefore, the project would not obviously conflict with implementation of the SoMa Area Plan where it applies to adjacent parcels or obviously conflict with its policies and objectives such that a physical impact would occur within the plan area.

SOUTH OF MARKET REDEVELOPMENT PLAN

The SoMa Redevelopment Plan, now implemented by the Successor Agency to the San Francisco Redevelopment Agency,³ was established following the Loma Prieta Earthquake (which occurred in October 1989) for “the purposes of repairing, restoring, and/or replacing buildings and physical infrastructure damaged by the earthquake, and to provide economic development assistance to neighborhood-serving businesses and retail establishments.” In 2005, the Redevelopment Plan was amended to allow for redevelopment activities to go beyond post-earthquake rebuilding in order to promote economic development, affordable housing, and the aesthetic quality of the physical environment. The Plan area, which comprises approximately 70 acres and encompasses the southern portion of the project site, is roughly bounded by Stevenson, Mission, and Natoma Streets on the north; Fifth Street on the east; Harrison Street on the south; and Seventh Street on the west. The Redevelopment Plan is focused on the Sixth Street corridor (which is characterized by older residential and commercial buildings, and a preponderance of single room occupancy hotels). Recent redevelopment activities have consisted of streetscape and alleyway improvements along Sixth Street and the development of affordable housing in the area.

³ In response to changes in State Law concerning redevelopment agencies, the City and County of San Francisco has created the Office of Community Investment and Infrastructure as the Successor Agency to the San Francisco Redevelopment Agency (“Successor Agency”). This agency now implements the redevelopment plans within the City that were previously implemented by the Redevelopment Agency.

The Redevelopment Plan contains goals in five categories: Housing; Business and Jobs; Community Quality of Life; Transportation and Parking; and Neighborhood Development and Land Use. In general, the proposed project would not obviously conflict with implementation of the Redevelopment Plan or obviously conflict with its policies and objectives such that physical impacts would occur within the plan area.

The Redevelopment Plan includes Goal E4, which is similar to General Plan Urban Design Element Policy 2.4 and Downtown Plan Policy 12.1.

- Goal E4: Preserve historically and/or architecturally significant buildings that contribute to the area's identity, give visual orientation, and impart a sense of continuity with San Francisco's past.

The project could conflict with this goal due to demolition of the Camelline Building, which is a historic resource for the purposes of CEQA. Associated physical environmental impacts are discussed in Section IV.C, Cultural and Paleontological Resources.

DRAFT CENTRAL SOUTH OF MARKET (CENTRAL CORRIDOR) PLAN

In 2011, the Planning Department initiated the Central SoMa⁴ community planning effort, focused on the SoMa neighborhood areas adjacent to the Central Subway. The Draft Plan is currently undergoing environmental review and plan refinement; it has not been adopted. The Central Subway is a project that would extend the existing Third Street rail line northward along the Fourth and Stockton Street corridors, providing rail service into Chinatown. The boundaries of the Plan area include Market Street to the north, Second Street to the east, Sixth Street to the west, and Townsend Street to the south. The area comprises about 32 city blocks and over 300 acres of land in SoMa. The focus of the

⁴ In September 2013, the Planning Department changed the name of the project from "Central Corridor" to "Central SoMa" to better reflect its geography. The purpose and content of the planning effort has not changed.

Plan is to integrate land use and transportation planning associated with the Central Subway fixed-rail alignment along the Fourth Street corridor. The five major goals of the project are to:

- 1) support transit-oriented growth, particularly workplace growth, in the Central SoMa Area;
- 2) shape the area's urban form recognizing both city and neighborhood contexts;
- 3) maintain the area's vibrant economic and physical diversity;
- 4) support growth with improved streets, additional open space, and other elements of "complete communities;" and
- 5) create a model of sustainable growth.

The Central SoMa Plan would designate the entire project site as C-3-S. The Plan identifies the project site as being under independent study, noting that: "While the properties comprising the 5M Project fall within the Central SoMa Plan Area, the scale and complexity of issues in the proposed 4 acre development require a more tailored solution than can be provided by the Plan's rezoning. The City is working with project sponsors on a more detailed, site focused planning effort that includes land use controls and specific design standards and guidelines for this major project. Although the 5M Project will be governed by project-specific controls and is not subject to the Central SoMa Plan, the controls for the 5M property have been developed in coordination with the Central SoMa Plan and with particular consideration to its goals with respect to program, scale and character."

The Planning Department released the Draft Central SoMa Plan and NOP/Notice of Public Scoping Meeting (Case No. 2011.1356E) in April 2013. The plan is currently undergoing environmental review and plan refinement. Although the Planning Department's current boundary for the Central SoMa Plan includes the project site, the proposed Fifth and Mission SUD and companion D4D would be the controlling documents for rezoning and establishing development controls for the project site. The proposed project, which would intensify land uses in the vicinity of the Central Subway Project, would not be expected to conflict with the Central SoMa Plan. As noted above, the 5M Project is an independent project that would develop its own development controls in the context of the Central SoMa Plan and would not be subject to, dependent or reliant on the Central SoMa's adoption.

SAN FRANCISCO PLANNING CODE

The San Francisco Planning Code (Planning Code), which incorporates the City’s Zoning Maps, implements the General Plan and governs permitted uses, densities, and configurations of buildings within the City. Permits to construct new buildings (or to alter and demolish existing buildings) may not be issued unless: 1) the proposed project conforms to the Planning Code; or 2) allowable exceptions are granted pursuant to provisions of the Planning Code.

The following section describes the proposed Fifth and Mission SUD and D4D guidelines proposed as part of the project and discusses the land use districts and use, bulk, height, and other regulations associated with the project site. **Figure II-23** and **Figure II-24** in Chapter II, Project Description show the land use and bulk/height districts on the project site. **Table II-7** also lists each existing building’s zoning, height, and bulk designations. **Table III-1** compares select existing planning controls to those proposed as part of the project.

Table III-1: Select Existing and Proposed Development Controls

Development Control	Existing	Proposed
Maximum Height	160 feet (at roof)	455 feet (at roof)
Bulk Controls		
M-1	90-X/160-F	90-X/85-X
M-2	160-F	200-S
N-1	160-F	455-S
N-2 ^a	160-F	180-S
N-3	160-F	85-X
H-1	40-X/85-B	420-X
Non-Residential Open Space	1 square foot of open space to every 50 gsf of uses with open space requirements	Same
Private Residential Open Space	36 square feet of usable open space per dwelling unit (if all private open space)	Same
Common Residential Open Space	1.33 x requirement for private usable open space	Same
Open Space Location	Specific lot	Throughout project site

^a Includes the H-1 N-2 Connector.

Source: Forest City Residential Development, Inc., Design for Development, 2013.

In addition, the relationship of the proposed project to the following sections of the Planning Code is discussed in this section: Sections 135, 138, and 412 (open space); Section 148 (wind); and Sections 146, 147, and 295 (shadow patterns). Refer to Sections IV.H, Public Services and Recreation and IV.G, Wind and Shadow for more detailed discussions related to physical environmental impacts associated with open space and wind and shadow patterns.

Fifth and Mission Special Use District

The proposed project includes the establishment of the Fifth and Mission SUD, which would be conterminous with the project site boundaries and proposes specific modifications to address the proposed project's inconsistency with certain current Planning Code provisions. The SUD includes development standards for land uses (including active ground floor uses), maximum allowable development, streetwall, setbacks, height, building separation and bulk and massing controls, open space, ground-level wind, parking and loading, artwork and signage, as further described in the "Project Approvals" section of Chapter II, Project Description.

Moreover, the proposed D4D contains specific design guidelines for buildings, streetscape and open space, and other design regulations that would guide development of the proposed commercial, residential, retail, arts, and open space uses. The SUD specifies project review procedures for compliance with its controls and the D4D guidelines.

Use Districts

Currently, the project site is located within two different use districts. The majority of the site, including the northern and central portions, is within the C-3-S (Downtown Support District), including: the Chronicle (901–933 Mission Street), Examiner (110 Fifth Street), Camelline (430 Natoma Street), and Dempster Printing (447–449 Minna Street) Buildings. The remaining southern portion of the site is within the RSD (Residential Services District), including the: Zihn (190 Fifth Street) and J.M. Kepner (910 Howard Street) Buildings, 924–926 Howard Street, and an industrial building used as storage (912 Howard Street). The intent of these districts and the consistency of the proposed project with the specific land use controls associated with each district are discussed below.

The C-3-S (Downtown Support) District is intended to encourage and support the growth of Downtown San Francisco as a business and employment center that is dense and located in close proximity to transit. According to Section 210.3 of the Planning Code, the District “accommodates important supporting functions such as wholesaling, printing, building services, and secondary office space. It also contains unique housing resources.”

The RSD (Residential Services District) is intended to serve as a housing opportunity area within the SoMa Mixed Used Districts. According to Section 815 of the Planning Code, the District controls are “intended to facilitate the development of high-density, mid-rise housing, including residential hotels and live/work units, while also encouraging the expansion of retail, business service and commercial and cultural arts activities. Continuous ground floor commercial frontage with pedestrian-oriented retail activities along major thoroughfares is encouraged.”

The proposed project would merge existing parcels on the project site and re-subdivide the property to accommodate the proposed development program as well as rezone the southern portion of the site (located between Natoma and Howards Streets and currently zoned RSD) to C-3-S, to be consistent with the existing underlying C-3-S zoning for the majority of the site. The proposed project would comply with the land use controls of the C-3-S District which, in addition to office and residential uses, permit retail, personal services, assembly, and entertainment uses on the ground floor. All other uses are to be located on the floors above or below the ground floor. Without approval of the Planning Commission, development within the C-3-S district is allowed at a base Floor Area Ratio (FAR) of 5.0:1 and the maximum FAR may not exceed 1½ times the basic floor area limit for the district (7.5:1).⁵ The proposed project would exceed this permitted density under either of the proposed project schemes and would therefore require an amendment to the Planning Code to increase the allowable density of development on the site. As previously discussed, the proposed project includes establishment of the Fifth and Mission SUD, which would amend the Planning Code

⁵ Planning Code Sections 123 and 124.

to allow the FAR for the site to be measured as a district-wide average and sets a maximum FAR of 11:1. With the attendant rezoning (as proposed) the project would allow for development of a mix of commercial, residential, cultural, and educational uses on the project site at a higher density than allowed under the Planning Code.

Height and Bulk Districts

The City's height and bulk districts are intended to serve a variety of urban design purposes. Generally, these height and bulk districts seek to relate the scale of new development to existing development, in order to prevent the new development from overwhelming or dominating the City's skyline. The regulation of height and bulk is also intended to promote harmony in the visual relationships and transitions between new and existing development. The site is located in three different height and bulk districts (see **Figure II-24**). With the exception of the northernmost portion of the Chronicle Building fronting Mission Street, which is within the 90-X Height and Bulk District (establishing a 90-foot height limit), the northern and central portions of the project site are within the 160-F Height and Bulk District (establishing a 160-foot height limit, with limitations on maximum dimensions above 80 feet). The southern portion of the site is within the 40-X/85-B Height and Bulk District (establishing an 85-foot height limit, with a base height of 40 feet).

The Fifth and Mission SUD would amend the height and bulk limitations set forth in the City Zoning Map. With implementation of the proposed project, buildings on the site would range in height from approximately 50 feet to 470 feet. Under the Office Scheme, building heights would be a maximum of 470 feet, while under the Residential Scheme building heights would be a maximum of 411 feet.

The heights listed below reflect the approximate maximum building envelope, including rooftop mechanical screening enclosures and architectural appurtenances that are otherwise not included in Planning Code Section 260 measurements for height limits. Taking into account the Planning Code

measurements for height limits, maximum building heights on the site would range from 85 feet to 455 feet:⁶

- Under both the Office Scheme and Residential Scheme, the renovated Chronicle Building would be about 50 feet (3 stories);
- Under the Office Scheme and Residential Scheme, Building M-2 would be approximately 220 feet tall (20 stories);
- Under the Office Scheme, Building N-1 would be 470 feet tall (46 stories); under the Residential Scheme, this building would be 393 feet tall (38 stories);
- Under the Office Scheme and Residential Scheme, Building N-2 would be approximately 195 foot tall (11 stories);
- Under the Office Scheme and Residential Scheme, the H-1/N-2 Connector would be located approximately 50 feet above the ground floor and would extend up to a total of 145 feet (6 stories);
- Under the Office Scheme and Residential Scheme, the existing four-story Dempster Printing Building would remain; and
- Under the Office Scheme, Building H-1 would be 434 feet tall (23 stories); and under the Residential Scheme, this building would be 411 feet tall (32 stories).

In addition to changing the maximum heights allowed under the Planning Code, the proposed project would also change the corresponding bulk designations for the project site. Parcels would be zoned either "S" or "X" and would comply with the applicable Planning Code bulk controls as modified by the Fifth and Mission SUD.

⁶ Forest City Residential Development, Inc., *5M Project/Design for Development*, September 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Parcels zoned 180-S would comply with the Planning Code's S-bulk controls with the following exceptions: 1) lower tower bulk controls would apply above the base (103 feet) up to 180 feet; and 2) above the base, the maximum diagonal would not exceed 205 feet. In order to balance the need for expansive interiors with controls to break up the perception of bulk on building exteriors, the following bulk standards would apply to parcels in zones 420-X: 1) above the base, the building would be designed to be perceived as two towers, connected internally; 2) the two-tower building would maintain a minimum height difference of 40 feet between expressed towers, measured as the difference of each tower's total height and inclusive of architectural elements visible from the ground; and 3) the two massings within the two-tower building would have different architectural treatments, through the use of either material, color, vertical articulation elements or spacing. To provide space for views between the dense, tall buildings, towers (i.e., buildings over 220 feet in height) would be separated by a minimum of 75 feet above 145 feet, with two exceptions: two buildings may reduce this distance to 1) a minimum separation of 55 feet between two single points and a building façade and 2) a minimum separation of 65 feet between a single point and a building face. There would also be no less than 100 feet between buildings at the Fifth Street property line and no less than 75 feet average distance between subject buildings measured at 10-foot intervals along the two most proximate façades.

Street Trees

The purpose of Planning Code Section 138.1 is to "establish requirements for the improvement of the public right-of-way associated with development projects, such that the public right-of-way may be safe, accessible, convenient and attractive to pedestrian use and travel by all modes of transportation consistent with the San Francisco General Plan, achieve best practices in ecological stormwater management, and provide space for public life and social interaction, in accordance with the City's 'Better Streets Plan.'" The Better Streets Plan governs the design, location, and dimensions of all pedestrian and streetscape items in the public right-of-way, including crosswalks, bulbouts, street furniture, planters, and trees. Section 138.1 requires street trees in most districts (including the C-3-S District) for projects involving: the construction of a new building; relocation of an existing building; the addition of gross floor area equal to 20 percent or more of the gross floor area of an existing

building; the addition of a new dwelling unit, garage, or additional parking; or paving and repaving more than 200 feet of the front setback. One 24-inch box size street tree must be installed for each 20 feet of frontage along each street or alley, with any remaining fraction of 10 feet or more of frontage requiring an additional tree, unless a waiver is granted because inadequate sidewalk width, utilities, or driveways make installation impractical. In lieu of compliance with Section 138.1, the project would be subject to the D4D provisions related to street trees. The D4D requires street trees at the perimeter streets that border the project site (Mission, Fifth, and Howard Streets) and a minimum of four trees on the portion of Minna Street that is within the project area boundaries. Tree spacing along the perimeter streets would be a maximum of 30 feet or less, an increase in spacing compared to the requirements of Section 138.1. Trees would be a minimum of 36-inch box size, a larger size than required by Section 138.1.

Please refer to Better Streets Plan, below, for a discussion of policy considerations related to the proposed street design.

Open Space

Sections 135, 138 and 412 of the City Planning Code regulate the provision of open space to be provided for by private development projects. These sections are described in detail below, followed by a discussion of the consistency of both the Office Scheme and Residential Scheme.

Section 135. Section 135 of the City Planning Code specifies the amount of usable open space required to be supplied by new development in the C Zoning District. Usable open space is defined as an outdoor area or areas designed for outdoor living, recreation or landscaping, including such areas on the ground and on decks, balconies, porches, and roofs, which are safe and suitably surfaced and screened. These areas must be on the same lot as the dwelling units that they serve and must be designed and oriented in a manner that will make the best practical use of available sun and other climatic advantages. "Private usable open space" is defined as areas private to and designed for use by only one dwelling unit; "common usable open space" is defined as an area or areas designed for joint use by two or more dwelling units. In C-3 Zoning Districts, 36 gsf of usable open space per

dwelling unit is required if all open space is to be private. Where common usable open space would be used to satisfy all or part of the requirement, such space is required to be provided in an amount equal to 1.33 gsf per square foot of the private usable open space that would otherwise be required (or 47.88 gsf per unit). Open space requirements for non-residential uses are governed by Planning Code Section 138, below.

Section 138. Within the C-3 Zoning District, the provision of privately-owned public open space, except for residential and institutional uses and uses in a predominantly retail building, is governed by Section 138 of the Planning Code. “Privately-owned public open space” is defined as areas that are designed for use of the general public while owned and maintained under private ownership. This section specifies that construction of new buildings or additions of gross floor area equal to 20 percent or more of an existing building within the C-3-S Zoning District⁷ shall provide a ratio of 1 square-foot of open space per 50 gross gsf of uses that already have an open space requirement. However, per Planning Code Section 138(g), in mixed use nonresidential/residential projects, open space which meets the requirements of Section 135 regarding common usable open space for residential uses, and separately meets the requirements of Section 138 regarding open space for nonresidential uses, may be counted against the open space requirements for both Sections 135 and 138.

Section 412. Section 412 of the City’s Planning Code sets forth the requirements and procedures for the Downtown Park Fee and establishes the Downtown Park Fund. While the open space requirements imposed on individual office and retail developments address the need for plazas and other local outdoor areas to serve employees and visitors in the downtown, the need for additional public park and recreation facilities within the Downtown districts will increase as the daytime population

⁷ Parcels currently located within the RSD District would be converted to the C-3-S District with implementation of the proposed project; therefore, the open space requirements for the C-3-S District are applied to all parcels within the project site.

increases with new development. The amount of the fee is two dollars per square foot of the net addition of gross floor area of office use.

Office Scheme. As shown in **Table II-5** in Chapter II, Project Description, about 44,600 gsf of shared open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site with implementation of the Office Scheme. Publicly-accessible open space would be provided as part of the larger program of public realm improvements that would occur throughout the project site. The public realm includes traditional publicly-accessible spaces that, together, are intended to meet Planning Code requirements for commercial and residential open space, as modified by the Fifth and Mission SUD and the D4D, which would be implemented as part of the project and contain specific development controls and design guidelines for the provision of open space on the projects site. Project Description **Figure II-18** shows the proposed open space plan. A discussion of how the proposed Office Scheme would meet the requirements of Planning Code Sections 135 and 138 is provided below.

As previously discussed, per Planning Code Section 135, 36 gsf of usable open space per dwelling unit is required within C-3 Zoning Districts if all open space is to be private. Where common usable open space would be used to satisfy all or part of the requirement, such space is required to be provided in an amount equal to 1.33 gsf per square foot of the private usable open space that would otherwise be required (or 47.88 gsf per unit). Therefore, the required open space for the 914 residential units on the site would vary depending on the combination of private and shared open space provided. If all residential open space would be private, about 32,904 gsf would be required. If all residential space would be shared, about 43,762 gsf would be required.

In addition, per Planning Code Section 138, construction of new buildings or additions of gross floor area equal to 20 percent or more of an existing building within the C-3-S Zoning District shall provide a ratio of 1 square-foot of privately-owned public open space per 50 gsf of uses that already have an open space requirement. Per this requirement, the proposed project would be required to provide 17,438 gsf of common open space for the 871,900 gsf of office space. However, per Planning Code

Section 138(g), in mixed nonresidential/residential projects, when the provision of open space meets the common open space requirements required for the residential component, additional open space is not required for the nonresidential component, provided that the open space provided would otherwise meet the required square footage outlined in Section 138.

The proposed project would provide a combination of private and public open space to meet the requirements of Planning Code Sections 135 and 138. Generally, open space would be provided in two main locations on the project site, including: a court between Minna and Natoma Streets (Mary Court) and open space on the roof of Building M-1 (Chronicle Rooftop). Open space would also be provided within several smaller areas throughout the project site, including landscape segments along the segment of Mary Street between Mission and Natoma Streets, and the relocated segment of Mary Street between Minna and Natoma Streets. All open space areas and corresponding square footages are outlined below.

- *Mary Court.* The former segment of Mary Court, between Minna and Natoma Streets, would include 12,450 gsf of privately-owned publicly accessible open space.
- *North Mary Street Pedestrian Improvements.* A 1,600-square-foot band of open space would be established on the west side of the North Mary Street alleyway which would be converted to a pedestrian-only alleyway.
- *Central Mary Street Pedestrian Improvements.* A 650-square-foot band of open space landscaping would be established on the west side of the re-aligned Mary Street right-of-way.
- *Chronicle Rooftop.* Approximately 22,000 gsf of publicly-accessible private open space would be developed on the existing Chronicle Building rooftop.
- *Other Open Spaces.* Other open spaces would be developed around the site, for use by residents of the site, as summarized below. These open spaces would not be open to the public.

- *Building M-2 Stepped Terrace.* An approximately 4,400-square-foot terrace would be developed on the ground floor, stepping up to the second floor, on the west side of Building M-2.
- *Building N-1 Open Space.* A 3,500-square-foot open space would be developed on the ground floor.

Mary Court and the Chronicle Rooftop would be publicly accessible in accordance with the Fifth and Mission SUD, which would allow certain limited restrictions on access. In addition, the Fifth and Mission SUD would permit residential open space to be provided in various locations throughout the project site (as opposed to on the same lot as the associated units, as would typically be required under Planning Code Section 135).

As outlined above, of the total 44,600 gsf of open space that would be provided on the project site, 7,900 gsf would be for use by residents only, and 36,700 gsf would consist of shared open space uses for use by project residents, workers, and the public. Per Planning Code Section 135, 43,762 gsf of shared open space or 32,904 gsf of private open space would be required to serve the residential use. Under Planning Code Section 138, about 17,438 gsf of common open space would typically be required to serve the commercial component of the project. However, because the proposed project would otherwise meet the requirements of Planning Code Sections 135 and 138 for the provision of common residential open space, the project is not required to provide additional open space for the commercial component of the project. Therefore, the proposed project exceeds the required open space provision. As such, the Office Scheme would meet the on-site demand for parks and open space services generated by new residents and workers as defined by the Planning Code.

Residential Scheme. About 62,100 gsf of shared open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site. The overall combination of private and public open space provided by the Residential Scheme would be similar to the Office Scheme, with the exception that an additional 17,500 gsf of podium rooftop open space would be provided within Building H-1.

Under the Residential Scheme, the required open space for the 1,209 units on the site would vary depending on the combination of private and shared open space provided. If all residential open space would be private, about 43,524 gsf would be required. If all residential space would be shared, about 57,887 gsf would be required. In addition, the proposed project would be required to provide 11,790 gsf of common open space for the 598,500 gsf of office space. However, because the proposed project would otherwise meet the requirements of Planning Code Sections 135 and 138 for the provision of common residential open space, the project is not required to provide additional open space for the commercial component of the project.

Of the total of 62,100 gsf of open space that would be provided on the project site, 7,900 gsf would be for use by residents only and the remaining 51,200 gsf would consist of shared open space uses for use by project residents, workers, and the public. Therefore, the proposed project exceeds the required open space provision. As such, the Residential Scheme would meet the on-site demand for parks and open space services generated by new residents and workers as defined by the Planning Code.

Wind

Planning Code Section 148 establishes equivalent wind speeds of 7 mph as the comfort criterion for seating areas and 11 mph as the comfort criterion for areas of substantial pedestrian use, and states that new buildings and additions to buildings may not cause ground-level winds to exceed these levels more than 10 percent of the time year-round between 7:00 a.m. and 6:00 p.m. If existing wind speeds exceed the comfort level, or when a project would result in exceedances of the comfort criteria, an exception may be granted, pursuant to Section 309, if the building or addition cannot be designed to meet the criteria “without creating an unattractive and ungainly building form and without unduly restricting the development potential” of the site. The proposed Fifth and Mission SUD would eliminate the requirements for an exception from the comfort criteria and instead would provide that development would need to comply with D4D requirements related to wind baffling measures to address wind impacts.

Section 148 also establishes a hazard criterion, which is a 26 mph equivalent wind speed for a single 1-hour period, or approximately 0.0114 percent of the time. Under Section 148, new buildings and additions may not cause wind speeds that meet or exceed this hazard criterion. This hazard criterion is used to determine significant effects on wind patterns pursuant to CEQA, and an exceedance of this criterion is considered a significant impact pursuant to CEQA. Under Section 148, no exception may be granted for buildings that result in winds that exceed the hazard criterion. The comfort criteria are based on wind speeds that are measured for 1 minute and averaged. In contrast, the hazard criterion is based on wind speeds that are measured for 1 hour and averaged; when using the same metric as the comfort criteria wind speeds, the hazard criterion wind speed is a 1-minute average of 36 mph.

As discussed in detail in Section IV.G, Wind and Shadow, the project would result in a relatively modest worsening of wind comfort conditions and would not result in significant effects related to the wind hazard criterion. The project D4D document would require the implementation of additional design features to further minimize the impact of wind levels on pedestrian comfort. Generally, the proposed project would not conflict with Section 148 of the Planning Code.

Shadow

Three sections of the Planning Code relate to the potential impacts of the proposed project on shadow patterns: Section 295, 146, and 147. These sections are described in detail below, followed by a brief summary of the project's consistency. A detailed discussion is provided in Section IV.G, Wind and Shadow, which focuses on impacts of the larger building heights that would occur with the Office Scheme.

Section 295. Section 295, the Sunlight Ordinance, was adopted through voter approval of Proposition K in November 1994 to protect certain public open spaces from shadowing by new structures. Section 295 prohibits the issuance of building permits for structures or additions to structures greater than 40 feet in height that would shade property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission, during the period from 1 hour

after sunrise to 1 hour before sunset, unless the Planning Commission, following review and comment by the general manager of the Recreation and Park Department, in consultation with the Recreation and Park Commission, determines that such shade would not be adverse to the use of such property. Boeddeker Park in the vicinity of the project site is under Recreation and Park Department jurisdiction and subject to Section 295.

Section 146. Planning Code Section 146 is intended to protect sun access on sidewalks along certain street segments in the C-3 zoning district. Subsection (a) of this section applies primarily to sidewalks along portions of the following streets, none of which are adjacent to the project site: Bush, Sutter, Post, Geary, O'Farrell, Ellis, Powell, Stockton, Grant, Kearny, Second, New Montgomery, and Market Streets. For each listed street segment, Section 146 identifies the side of the street to which the standards apply, and indicates the maximum permitted street wall height and the required sun access angle (i.e., the plane defined by an angle sloping away from the street above the maximum street wall height, which may not be penetrated by building mass) of buildings on the applicable side of the street. However, Section 146(c) applies to other street segments in the C-3 district, other than those on streets listed above. This section specifies that: "New buildings and additions to existing buildings shall be shaped, if it can be done without creating an unattractive design and without unduly restricting the development potential of the site in question, so as to reduce substantial shadow impacts in C-3 Districts other than those" on the street segments listed in subsection (a).

Section 147. Planning Code Section 147, applicable to the C-3, RSD, SLR, SLI, and SSO zoning districts, where height limits are greater than 40 feet, requires that all new development and additions to existing structures where the height exceeds 50 feet must be designed to minimize shadow on public plazas or other publicly accessible open spaces other than those protected by Section 295, "in accordance with the guidelines of good design and without unduly restricting the development potential of the property." The following factors must be taken into account in determining compliance with this criterion (pursuant to Section 147): the amount of area shadowed; the duration of the shadow; and the importance of sunlight to the type of open space being shadowed.

Parking and Loading

As discussed in more detail in Chapter IV, Environmental Setting and Impacts, the proposed project is subject to Public Resources Code Section 21099, which eliminates parking as an impact that can be considered in determining the significance of physical environmental impacts under CEQA for projects meeting certain criteria. However, parking is discussed below and in Section IV.D, Transportation and Circulation, for informational purposes.

Section 151.1 establishes minimum loading and maximum parking requirements for C-3 Districts (i.e., no minimum parking requirements are established). In C-3 Districts, two off-street freight loading spaces are required for a use with gross floor area ranging from 200,001 to 500,000 square feet. Parking for non-residential uses in C-3 Districts may not exceed 7 percent of gross floor area. Section 7.3 (Car Parking and Car Share) of the proposed D4D contains parking controls, which are generally consistent with the parking requirements for C-3 Districts. For instance, a total of five off-street freight loading spaces would be required at the site, and parking for non-residential uses would not be permitted to exceed 7 percent of gross floor area. Please refer to Section IV.D, Transportation and Circulation, for a more detailed analysis of the project's parking supply.

Implementation of the Office Scheme would include up to 663 parking spaces while the Residential Scheme would include up to 756 parking spaces. Parking would be shared by all buildings on the site, in accordance with accessory parking controls proposed in the Fifth and Mission SUD.

Section 155.2 establishes the following requirements for bicycle parking:

- *Residential Units:* 100 Class 1 spaces plus one Class 1 space for every four dwelling units over 100. One Class 2 space per 20 units.
- *Office Uses:* One Class 1 space for every 5,000 occupied square feet. Minimum of two Class 2 spaces for any office use greater than 5,000 gross square feet, and one Class 2 space for each additional 50,000 occupied square feet.
- *Retail Uses:* One Class 1 space for every 7,500 square feet of occupied floor area. For uses larger than 50,000 gross square feet, 10 Class 2 spaces plus one Class 2 space for every

additional 10,000 occupied square feet. (Note that requirements for restaurant uses differ slightly from these retail uses requirements.)

The Office Scheme would provide 540 Class 1 bicycle parking facilities and 97 Class 2 bicycle racks. The Residential Scheme would provide 591 Class 1 bicycle parking facilities and 97 Class 2 bicycle racks. Bike parking facilities could be located on the ground floor or first basement level of project buildings, and would be located throughout the District in accordance with the Fifth and Mission SUD and D4D, including in plaza areas, building entries, and open space. Lockers and showers would also be provided to encourage biking. The proposed project would thus not substantially conflict with the parking and loading requirements outlined in the Planning Code.

ACCOUNTABLE PLANNING INITIATIVE

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the Planning Code to establish eight Priority Policies, and was also included in the General Plan. The Priority Policies, which provide general policies and objectives to guide certain land use decisions, generally relate to physical environmental issues, and each of these issues are addressed in this EIR. These policies, and the sections of this EIR addressing the environmental issues associated with the policies are:

1. That existing neighborhood-serving retail uses be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses enhanced (see Section IV.A, Land Use);
2. That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods (see Section IV.A, Land Use);
3. That the City's supply of affordable housing be preserved and enhanced (see Section IV.B, Population and Housing and Initial Study pages 65 to 66);
4. That commuter traffic not impede Muni transit services or overburden our streets or neighborhood parking (see Section IV.D, Transportation and Circulation);

5. That a diverse economic base be maintained by protecting our industrial and service sectors from displacement due to commercial office development, and that future opportunities for resident employment and ownership in these sectors be enhanced (see Section IV.A, Land Use);
6. That the City achieve the greatest possible preparedness to protect against injury and the loss of life in an earthquake (see Section IV.H, Public Services and Recreation, and Initial Study, pages 122 to 128);
7. That landmarks and historic buildings be preserved (see Section IV.C, Cultural Resources);
and
8. That our parks and open space and their access to sunlight and vistas be protected from development (see Section IV.H, Wind and Shadow).

Proposition M also established an annual cap on office space development and required that an applicant seeking to develop at least 25,000 square feet of office space obtain an allocation from the annual City-wide limit from the Planning Commission. The proposed project includes a request for authorization of office space in accordance with existing procedures established under Planning Code Section 321.

Prior to issuing a permit for any project which requires an EIR under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action which requires a finding of consistency with the General Plan, the City is required to find that the proposed project or legislation is consistent with the Priority Policies. 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 General Plan, the City is required to find that the proposed project or action is consistent with the Priority Policies. The consistency of the proposed project with the environmental topics associated with the Priority Policies is discussed in Chapter IV, Environmental Setting, Impacts, and Mitigation Measures, or in Section E, Evaluation of Environmental Effects, of the NOP/Initial Study (see

Appendix A to this EIR), providing information for use in the case report for the proposed project. The staff reports and approval motions prepared for the decision-makers will include a comprehensive project analysis and findings regarding the consistency of the proposed project with the Priority Policies.

Potential conflicts of the proposed project in regard to land use, cultural resources, wind and shadow, transportation and circulation, and public services and recreation associated with the Priority Policies are discussed in the relevant topical sections of this EIR. The project case reports and approval motions will contain the Planning Department's comprehensive project analysis and findings regarding consistency of the proposed projects with the Priority Policies.

SUSTAINABILITY PLAN

In 1993, the San Francisco Board of Supervisors established the Commission on San Francisco's Environment, charged with, among other things, drafting and implementing a plan for San Francisco's long-term environmental sustainability. The notion of sustainability is based on the United Nations characterization that "a sustainable society meets the needs of the present without sacrificing the ability of future generations and non-human forms of life to meet their own needs." The Sustainability Plan for the City of San Francisco was a result of community collaboration with the intent of establishing sustainable development as a fundamental goal of municipal public policy. The Sustainability Plan is divided into 15 topical areas, including ten that address specific environmental issues (air quality; biodiversity; energy, climate change and ozone depletion; food and agriculture; hazardous materials; human health; parks, open spaces, and streetscapes; solid waste; transportation; and water and wastewater) and five that are broader in scope and cover more general environmental and non-environmental issues (economy and economic development, environmental justice, municipal expenditures, public information and education, and risk management). In addition, the Sustainability Plan contains indicators designed to create a base of objective information on local conditions and to illustrate trends toward or away from sustainability. Although the Sustainability Plan became official City policy in July 1997, the Board of Supervisors has not committed the City to

perform all of the actions addressed in the Plan. The Sustainability Plan serves as a blueprint, with many of its individual proposals requiring further development and public comment.

One way the energy provisions of the Sustainability Plan are promoted is through the implementation of the San Francisco Green Building Ordinance and the Municipal Green Building Ordinance. New private-sector residential buildings, new non-residential buildings larger than 5,000 square feet, and major renovations to areas larger than 25,000 square feet in existing buildings (or mechanical, electrical, or plumbing upgrades to areas larger than 25,000 square feet) are required to conform to energy conservation standards specified by the San Francisco Building Code, including the San Francisco Green Building Ordinance. The measures required by the San Francisco Green Building Ordinance are intended to reduce greenhouse gas emissions associated with new construction and rehabilitation activities, increase energy efficiency, and realize other environmental gains. The proposed project would be subject to the San Francisco Green Building Ordinance.

Under the Municipal Green Building Ordinance, all large commercial buildings and major renovations (over 25,000 square feet) are required to achieve Leadership in Energy and Environmental Design (LEED) Gold certification from the U.S. Green Building Council or equivalent.⁸ Multi-family residential buildings require LEED Silver certification. As described in the D4D, the proposed project includes sustainability standards and guidelines which are designed to reduce the energy demand of the proposed buildings and uses and to ensure compliance with the City's Sustainability Plan and Climate Action Plan. In addition, the project would achieve the LEED certification or equivalent. The proposed project, by intensifying land uses in neighborhoods that are well-served by

⁸ LEED is a green building certification system which provides third-party verification that a building or community was designed and built using strategies intended to improve performance in metrics such as energy savings, water efficiency, carbon emission reduction, improved indoor environmental quality, and stewardship of resources. Buildings can qualify for four levels of certification based on the number of "points" a project receives for incorporating green design features: Certified (40-49 points); Silver (50-59 points); Gold (60-79 points); and Platinum (80 points and higher).

transit and by incorporating energy efficiency measures, would not obviously conflict with the Sustainability Plan.

CLIMATE ACTION PLAN

In February 2002, the San Francisco Board of Supervisors passed the Greenhouse Gas Emissions Reduction Resolution (Number 158-02), committing the City and County of San Francisco to a greenhouse gas (GHG) emissions reductions goal of 20 percent below 1990 levels by the year 2012. The resolution also directs the San Francisco Department of the Environment, the San Francisco Public Utilities Commission (SFPUC), and other appropriate City agencies to complete a local action plan targeting GHG emission reduction activities. In September 2004, the San Francisco Department of the Environment and the SFPUC published the Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions (Climate Action Plan).

The Climate Action Plan examines the causes of global climate change and human activities that contribute to global warming and provides projections of climate change impacts on California and San Francisco based on recent scientific reports; presents estimates of San Francisco's baseline GHG emissions inventory and reduction targets; describes recommended emissions reduction actions in the key target sectors – transportation, energy efficiency, renewable energy, and solid waste management – to meet stated goals by 2012; and presents next steps required over the near term to implement the Climate Action Plan. Although the Board of Supervisors has not formally committed the City to perform the actions addressed in the Climate Action Plan, and many of the actions require further development and commitment of resources, the Climate Action Plan serves as a blueprint for GHG emission reductions, and several actions are now in progress.

As described above under Sustainability Plan, compliance with the San Francisco Green Building Ordinance would reduce the use of energy by the proposed project. The proposed project, by intensifying land uses in neighborhoods that are well-served by transit and by incorporating energy efficiency measures, would not obviously conflict with the Climate Action Plan. Please refer to pages

78 to 101 in the Initial Study, found in Appendix A, for additional information related to the project's less-than-significant impacts on climate change.

BETTER STREETS PLAN

The Better Streets Plan, adopted in 2010, describes a vision for the future of San Francisco's pedestrian environment and involved adoption of a set of City-wide streetscape and pedestrian policies and guidelines to help accomplish this vision. The Planning Department, Department of Public Works, San Francisco Municipal Transportation Agency, and San Francisco Public Utilities Commission were joint project sponsors of the Plan on behalf of the City and County of San Francisco. The Better Streets Plan seeks to balance the needs of all City street users. The Plan identifies goals, objectives, policies, and design guidelines, as well as future strategies to improve the pedestrian realm in San Francisco. Pedestrian areas mainly include sidewalks and crosswalks and, in some instances, portions of roadways. Major concepts covered in the Better Streets Plan range from increased pedestrian safety and accessibility features to improved ecological performance of streets and streetscape greening.

The proposed project would not physically remove travel-ways on major pedestrian or vehicle thoroughfares adjacent to the project site. The project could promote Policy 7.2 of the Plan: "Increase connectivity and access across barriers to pedestrian travel." As part of the project, the City would vacate Mary Street between Minna and Natoma Streets and the street would be realigned through dedication to the City of a new alignment approximately 75 feet west of the existing right-of-way along the western boundary of the site (the vacated right of way would become part of the Mary Court open space). The project would thus remove direct vehicle access between Mission and Howard Streets via Mary Street. However, Mary Street is an alley and does not serve as a major vehicle route. Therefore, vacation of a segment of Mary Street would not result in a significant physical environmental impact and would not obviously conflict with the Better Streets Plan. In addition, as discussed in Section IV.D, Transportation and Circulation, proposed sidewalk widths along Mission, Fifth, and Howard Streets adjacent to the project site would be consistent with the Better Streets Plan.

As discussed under Planning Code, above, the Better Streets Plan prohibits the planting of street trees on sidewalks with a width of 6 feet or less, unless trees can be planted in curb extensions on the street. Due to the narrower sidewalk conditions of the interior streets (Minna, Natoma, and Mary Streets), street trees would not be required in order to reserve space for through pedestrian access. In order to provide green space on these streets, landscaped screens, landscaped walls, and parklets are encouraged by the D4D. Perimeter streets (Mission, Howard and Fifth Streets) would all be planted with street trees. Because tree plantings on interior streets would be excluded to allow for through pedestrian access, this lack of street trees on Minna, Natoma, and Mary Streets would not conflict with the Better Streets Plan (which allows for deviations from targeted standards in order to respond to localized street conditions).

TRANSIT FIRST POLICY

The City of San Francisco's Transit First policy, adopted by the Board of Supervisors in 1973 and contained within Section 8A.115 of the City Charter, was developed in response to the damaging impacts over previous decades of freeways on the City's urban character. The policy is aimed at restoring balance to a transportation system long dominated by the automobile, and improving overall mobility for residents and visitors whose reliance chiefly on the automobile would result in severe transportation deficiencies. It encourages multi-modalism, the use of transit, and other alternatives to the single-occupant vehicle as modes of transportation, and gives priority to the maintenance and expansion of the local transit system and the improvement of regional transit coordination.

The project site is located in close proximity to numerous transit routes and is easily accessible by bicycle, and the use of alternative transportation by project employees and residents is expected to be high. Therefore, the project would not obviously conflict with the Transit First Policy.

BICYCLE PLAN

In August 2009, the Board of Supervisors approved the San Francisco Bicycle Plan. The Bicycle Plan includes a Citywide bicycle transportation plan and implementation strategy for specific bicycle improvements identified within the Plan. There is currently a westbound bicycle lane on Howard Street that extends between Fremont and Eleventh Streets, and bike routes along Market and Fifth Streets. The bike route along Market Street extends between Steuart and Eighth Streets, and the bike route along Fifth Street extends between Market and Townsend Streets.

The Bicycle Plan identifies short-term and long-term bicycle improvement projects. Identified short-term improvements in the vicinity of the project site include the development of bike lanes along Fifth Street from Market Street to Townsend Street. No changes are proposed to the existing westbound bicycle lane along Howard Street. The proposed project would not physically change the travel lanes of streets in the vicinity of the site for bicycles. The Mary Street alleyway would be re-aligned and converted to a pedestrian path and green space as part of the project, but through bicycle access would continue to be available. Therefore, the proposed project would not obviously conflict with the Bicycle Plan (see Section IV.D, Transportation and Circulation, for a discussion of potential operational effects of the project on bicycle circulation).

SUMMARY

In general, the proposed project promotes policies in the relevant planning documents described in this chapter related to the development of new housing, provision of active, pedestrian-oriented neighborhoods, and the development of a mixture of compatible land uses. The project would redevelop an underutilized site in downtown San Francisco with a mix of uses that would complement surrounding dense urban neighborhoods, and contribute to the neighborhood's employment base and housing stock. The project would not obviously conflict with General Plan policies relating to the creation of jobs and housing. With implementation of the Fifth and Mission SUD and the project specific D4D the project would not obviously conflict with the Planning Code. However, the project could potentially conflict with policies in the General Plan, SoMa Area Plan, and South of Market Redevelopment Plan related to the preservation of historic resources (due to

demolition of the Camelline Building), the introduction of office uses within the SoMa Area Plan, and changes to the scale and density of the site. The project application includes requests for amendments to existing land use designations and development controls, and the staff report for the Planning Commission will evaluate the consistency of the proposed project with General Plan policies and applicable Planning Code regulations.

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IV. ENVIRONMENTAL SETTING AND IMPACTS

This chapter contains an analysis of each issue that was identified in the Initial Study as a topic for analysis in the 5M Project EIR. Sections A through I of this chapter describe the environmental setting of the project site related to each specific environmental issue evaluated in the EIR, as well as the impacts which may result, and how each project scheme may potentially affect impacts. Mitigation measures to reduce potential impacts are identified, where appropriate. The conclusions of the previously-prepared Initial Study are summarized in the topical sections contained in this chapter, as needed, for informational purposes.

The project sponsor, Forest City Residential Development, Inc., filed an application February 2, 2012, for the environmental evaluation of the proposed project. Based on the Initial Study published on January 30, 2013 (Appendix A), the San Francisco Planning Department determined that an EIR is required. The Initial Study concluded that many of the physical environmental effects of the proposed project would be less than significant, or that mitigation measures, agreed to by the project sponsor and required as a condition of project approval, would reduce significant impacts to a less-than-significant level. CEQA does not require further assessment of the project's less-than-significant impacts, which fall into the following topical areas: Biological Resources; Geology and Soils; Greenhouse Gas Emissions; Hydrology and Water Quality; Hazards/Hazardous Materials; Mineral/Energy Resources; and Agriculture and Forest Resources. However, the Initial Study found potentially significant project-specific effects and/or cumulative impacts related to: Land Use; Population and Housing; Cultural and Paleontological Resources; Transportation and Circulation; Noise; Air Quality; Wind and Shadow; Public Services and Recreation; and Utilities and Service Systems. Accordingly, these topics are evaluated in this EIR in separate topical sections.

DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data, including the entire record for the project, and not on argument, speculation, or unsubstantiated evidence. Each impact and mitigation measure section of this chapter is prefaced by certain criteria, which have been developed by the San Francisco Planning Department for use in determining whether an impact is significant.

Impacts are categorized by type of impact as follows:

- *Less-Than-Significant.* An impact that would not involve an adverse physical change to the environment, does not exceed the defined significance criteria, or would be eliminated or reduced to a less-than-significant level through compliance with existing local, State, and federal laws and regulations.
- *Less-Than-Significant with Mitigation.* An impact that is reduced to a less-than-significant level through implementation of the identified mitigation measures.
- *Significant and Unavoidable with Mitigation.* An adverse physical environmental impact that exceeds the defined significance criteria and can be reduced through compliance with existing local, State, and federal laws and regulations and/or implementation of all feasible mitigation measures, but cannot be reduced to a less-than-significant level.
- *Significant and Unavoidable.* An adverse physical environmental impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, State, and federal laws and regulations and for which there are no feasible mitigation measures.

FORMAT OF ISSUE SECTIONS

Each environmental topic considered in this chapter comprises two primary sections: 1) setting, and 2) impacts and mitigation measures. An overview of the general organization and the information provided in the two sections is provided as follows:

- **Setting.** The setting section for each environmental topic provides a description of the baseline physical setting for the project site and its surroundings at the beginning of the environmental review process (e.g., existing land uses, noise environment, traffic conditions). An overview of regulatory considerations that are applicable to the specific environmental topic is also provided.
- **Impacts and Mitigation Measures.** The impacts and mitigation measures section for each environmental topic presents a discussion of the impacts (i.e., the changes to baseline physical environmental conditions) that could result from implementation of the proposed 5M Project. The section begins with the criteria of significance, which establish a way of determining whether an impact is significant. The latter part of this section presents the impacts from the proposed project and mitigation measures, if required. The impacts of the proposed project are organized into separate categories based on the criteria listed in each topical section.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures, where identified, are numbered and indented, and follow impact statements. Impacts and mitigation measures are numbered consecutively within each topic and include an abbreviated reference to the impact section (e.g., LU). The following symbols are used for individual topics:

LU:	Land Use
PH:	Population and Housing
CP:	Cultural and Paleontological Resources
TR:	Transportation and Circulation
NO:	Noise
AQ:	Air Quality
WS:	Wind and Shadow

PS: Public Services and Recreation

UT: Utilities and Service Systems

PUBLIC RESOURCES CODE SECTION 21099

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014¹ and added Section 21099 to the California Public Resources Code. Among other provisions, Public Resources Code Section 21099(d)(1) changed the typical analysis of aesthetics and parking impacts for urban infill projects and eliminated the measurement of auto delay, including Level of Service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas.² On November 26, 2013, the San Francisco Planning Department issued a memorandum to the Planning Commission summarizing the provisions of SB 743 as they relate to the Planning Department's analysis methodology with respect to aesthetics, parking, and traffic.³

Aesthetics and Parking Analysis

Public Resources Code Section 21099 provides that the "aesthetics 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,

¹ SB 743 can be found online at: leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB743.

² A "transit priority area" is defined in as an area within ½ -mile of an existing or planned major transit stop. A "major transit stop" is defined in Section 21064.3 of the California Public Resources Code as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. A map of San Francisco Transit Priority Areas can be found online at: sfmea.sfplanning.org/Map%20of%20San%20Francisco%20Transit%20Priority%20Areas.pdf.

³ San Francisco Planning Department, Memorandum from Viktoriya Wise to San Francisco Planning Commission, *CEQA Update: Senate Bill 743 Summary – Aesthetics, Parking and Traffic*, November 26, 2013. The memorandum is included as Appendix D of this EIR and can be found online at: sfmea.sfplanning.org/CEQAUpdate-SB743Summary.pdf.

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:⁴

- a. the project is in a transit priority area;
- b. the project is on an infill site; and
- c. the project is residential, mixed-use residential, or an employment center.

The proposed project meets each of the above three criteria and thus this EIR does not consider aesthetics and the adequacy of parking in determining the significance of project impacts under CEQA.

Under Public Resources Code Section 21099, a Lead Agency will continue to maintain the authority to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers and aesthetics impacts do not include impacts on historical or cultural resources. As such, there will be no change in the Planning Department's 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 information that would have otherwise been provided in an aesthetics section of the EIR (i.e., "before" and "after" visual simulations) has been included in Chapter II, Project Description, of this EIR. However, this information is provided solely for informational purposes and is not used to determine the significance of the environmental impacts of the project, pursuant to CEQA as modified by Public Resources Code Section 21099.

Similarly, the Planning Department acknowledges that parking conditions may be of interest to the public and the decision-makers. Therefore, this EIR presents parking demand analysis for

⁴ Attachment C of Appendix D sets forth the definitions of the terms used in SB 743.

informational purposes and considers any secondary physical impacts associated with constrained supply (e.g., queuing by drivers waiting for scarce onsite parking spaces that affects the public right-of-way) as applicable in the transportation analysis in Section IV.D, Transportation and Circulation.

Level of Service Analysis

Public Resources Code Section 21099 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 within transit priority areas that promote the “reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” It also allows OPR to develop alternative metrics outside of transit priority areas. The statute provides that, upon certification and adoption of the revised CEQA Guidelines by the Secretary of the Natural Resources Agency, “automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant” to CEQA. In other words, LOS generally shall not be used as a significance threshold under CEQA. These changes would need to be adopted by the Secretary of the Natural Resources Agency and are anticipated to be effective sometime in 2015. Therefore, the LOS-related provisions of Public Resources Code Section 21099 are not yet applicable to the proposed project and this EIR analyzes the traffic-related impacts of the project as they pertain to LOS.

APPROACH TO ANALYSIS

The analysis of each issue topic includes an evaluation of the potential environmental impacts associated with implementation of the Office Scheme and the Residential Scheme. As described in Chapter II, Project Description, under both schemes, the proposed project would result in the construction of new active ground floor space (including office, retail, educational, and cultural uses), office use, residential dwelling units, and open space. Associated infrastructure and accessory vehicle and bicycle parking would also be developed to support these uses. The two options are similar in massing and propose the same land use on all parcels except Howard Street. Both schemes would entail renovation of the Chronicle Building (901-933 Mission Street) and Dempster Printing Building (447-449 Minna Street), demolition of all other buildings on the site and the construction of four new

buildings with heights ranging from 180 to 470 feet. The overall gross square footages are substantially the same between the two schemes, with a difference of about 20,000 gsf. Please refer to Chapter II for a description of the two development schemes.

In general, the evaluation of environmental impacts focuses on the Office Scheme, which represents the largest development envelope of the two schemes. However, elements of the Residential Scheme that differ from the Office Scheme are identified and described. The impacts of the Office and Residential Schemes are evaluated separately in order to address potentially different effects associated with the proposed land uses and building program for each scheme. Where impacts of the two design schemes may differ, mitigation measures are specified for each scheme, as applicable.

APPROACH TO CUMULATIVE ANALYSIS

CEQA defines cumulative impacts as “two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts.” Section 15130 of the *CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that may be individually limited but cumulatively significant. These impacts could result from the proposed project alone, or together with other projects. The *CEQA Guidelines* state: “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.” Cumulative impacts could result from individually minor but collectively significant projects taking place over time.

For the evaluation of cumulative impacts, CEQA allows the use of either a list of past, present, or reasonably anticipated relevant projects, including projects outside the control of the lead agency, a summary of the projections in an adopted planning document, or a thoughtful combination of the two. The cumulative impacts analysis in this Draft EIR is based on information provided by the City of San Francisco on major planned projects known to the Planning Department in January 2013 that are generally within the vicinity of the site (where impacts of reasonably foreseeable future projects may combine with project impacts to result in cumulative impacts), unless otherwise noted in the

cumulative discussion for each of the topical sections. Cumulative projects are listed in **Table II-8** in Chapter II, Project Description.

In addition, the cumulative analysis also considers the potential impacts of the proposed project within the context of general City-wide population growth anticipated to occur in the foreseeable future, as well as development associated with the implementation of plans such as the proposed Central SoMa Plan (formerly the Central Corridor Plan).

A. LAND USE

This section discusses the potential effects of the proposed project on land use patterns, land use compatibility and character, and other related issues. As discussed on pages 58 to 61 of Appendix A, the Initial Study determined that the proposed project could physically divide an existing community; conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect; and have a substantial impact upon the existing character of the site's vicinity. These potential effects are evaluated in this section of the EIR.

Environmental Setting

The project site is located in the southwest quadrant of Fifth and Mission Streets at the intersection of the Downtown and SoMa neighborhoods. This area of San Francisco functions as the center of commerce and employment for the City as well as the nine county Bay Area. As such, land uses within and in the vicinity of the site are typical of a densely developed, downtown urban area. The following section describes existing land uses within and in the vicinity of the project site. **Figure IV.A-1** depicts an aerial view of the project site and surrounding land uses.

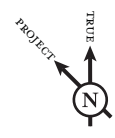
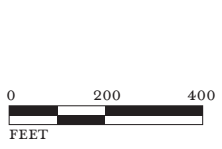
Land Uses Within the Project Site. The approximately 4-acre project site occupies 22 contiguous parcels. The site is primarily bordered by existing roadways, including Mission Street to the north; Fifth Street to the east; Howard Street to the south; and the southern segment of Mary Street, between Natoma and Howards Streets, to the west. A mix of office and commercial uses are located on portions of Mission, Minna, and Natoma Streets, and west of the northern segments of Mary Street, also border to the site to the west.

The site is flat and developed with eight buildings, which provide a total of approximately 317,700 gsf of building space containing office and commercial uses; refer to **Figure II-2** in Chapter II, Project Description, for photographs of the project site, and **Table II-1** for additional information on building size, use, and date of construction. The land uses of the lots that comprise the project site are described below:

- *901-933 Mission Street (Chronicle Building)*. This 42,396-square-foot lot is located at the northeast corner of the site and is currently developed with the 178,700-square-foot, three-story Chronicle Building, which was built in 1924. The building also contains a five-story clock tower at its northeast corner (the southwest quadrant of Fifth and Mission Streets) and a two-story pedestrian bridge over Minna Street connects the building to 110 Fifth Street. The building includes a variety of office uses, including educational organizations, and serves as the main headquarters for the San Francisco Chronicle, a newspaper serving primarily the San Francisco Bay Area. Other businesses include Intersection for the Arts, Impact Hub, San Francisco School of Digital Filmmaking, Best Buddies, and Yahoo!.
- *110 Fifth Street (Examiner Building)*. This 37,871-square-foot lot is located at the southwest quadrant of the Minna and Fifth Street intersection, south of the Chronicle Building, and is developed with the 92,100-square-foot, three-story Examiner Building, which was built in 1968. The two-story pedestrian bridge described above connects this building to the Chronicle Building. An open loading dock runs across most of the south elevation at ground level. The building is owned by the San Francisco Chronicle and includes office space currently occupied by Yahoo!.
- *447-449 Minna Street (Dempster Print Building)*. This 2,996-square-foot lot is located at the western border of the project site, about mid-block on Minna Street, and is developed with the 12,000-square-foot, four-story Dempster Print Building, which was built in 1907. The brick industrial loft building is currently vacant, although it was formerly occupied by office and light industrial uses, including printing, wholesale candy, and lamp manufacturing businesses.
- *430 Natoma Street (Camelline Building)*. This 3,197-square-foot lot is located at the northeast quadrant of the Natoma and Mary Street intersection and is developed with the 9,600-square-foot two- and three-story Camelline Building, which was built in 1923. The former industrial building is currently used as office space and is occupied by the San Francisco Chronicle, IS Logistics and various other tenants.



FIGURE IV.A-1



 Project Boundary

SOURCES: GOOGLE EARTH, 4/16/13; LSAASSOCIATES, INC., 2013.

5M Project EIR
 Aerial Photo and Land Use Map
 of the Project Site and Vicinity

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- *190 Fifth Street (Zihn Building)*. This 1,873-square-foot lot is located at the southwest corner of the project site and is developed with the 1,900-square-foot two-story Zihn Building, which faces Fifth Street and was built in 1924. The former warehouse is currently used as office space and is occupied by Build Inc.
- *910 Howard Street (J.M. Kepner Building)*. This 6,089-square-foot lot is located approximately at the center of the block bounded by Natoma, Fifth, Howard, and Mary Streets. The 6,089-square-foot two-story J.M. Kepner Building was built in 1922 and is currently used by the San Francisco Chronicle as a shipping and receiving department.
- *924-926 Howard Street*. This 7,596-square-foot lot is located at the site's western border and occupies the western end of the block between Natoma and Howard Streets, east of Mary Street. The 15,200-square-foot three-story office/commercial building was built in 1923 and is currently occupied by TechShop and SFMade.
- *912 Howard Street*. This 2,056-square-foot lot is located next to the J.M. Kepner Building and the 2,100-square-foot one-story building faces Howard Street. The building was built in 1928 and includes commercial and office support uses currently occupied by TechShop.

The project site also currently contains seven surface parking lots with a total of approximately 256 parking spaces accessed from Mission, Minna, Mary, Natoma, Howard, and Fifth Streets. Mary, Minna and Natoma Streets are streets internal to the site. As discussed above, the site is completely developed and is covered with building and surface pavements. Existing vegetation is limited to 15 trees on and adjacent to the site, which are present along the Mission, Fifth, Howard, and Mary Street frontages.

As described in greater detail in Chapter III, Plans and Policies, the project site is located within the General Plan's Downtown planning area and is within the Downtown Support (C-3-S) and Residential Services District (RSD) land use districts identified by the Planning Code. Refer to **Table II-7** in Chapter II, Project Description, for the zoning, height, and bulk designations that apply to each

of the buildings on the site. **Figures II-23 and II-24** in Chapter II, Project Description, depict the zoning map and height/bulk districts in and around the project site, respectively.

Land Uses Around the Project Site. The immediate project vicinity contains a wide range of building types and land uses and no particular land use predominates. Land uses that surround the project site include hotel, retail, office, residential, convention, parking, and public facilities that typify Downtown San Francisco and its immediate surroundings. Buildings in the vicinity of the site include older commercial, mixed residential/commercial, live/work, and industrial structures, as well as newer residential buildings.

The urban development pattern in the neighborhood around the project site consists of a grid pattern of blocks with dimensions of approximately 475 feet by 850 feet, 82-foot-wide one- and two-way streets, and smaller intersecting alleys. Street fronts primarily include commercial and industrial uses, with some low-scale office uses. Residential uses are located to the west and south, within the East and Western SoMa neighborhoods.

North of the site, across Mission Street, land uses include those associated with the Old U.S. Mint Building (a National Historic landmark that is listed on the National Register of Historic Places) and Mint Plaza, including a pedestrian plaza, restaurants, cafes, and a multi-use performance venue, the two-story S.F. Provident Loan Association building (considered a historical resource for environmental review purposes), and a 15-story, 152-foot-tall hotel project under construction at 942 Mission Street. East of the project site, across Fifth Street, buildings include a seven-story parking garage, an office building, and the 32-story, 340-foot tall Intercontinental San Francisco Hotel. South of the project site, across Howard Street, buildings include one- to three-story mixed-use buildings and a two-tower, 85-foot-tall mixed-use/residential project currently under construction at 260 Fifth Street. West of the site, adjacent to the Dempster Printing Building, buildings include one-to two-story light industrial-type buildings.

Major structures near the site include: the Intercontinental San Francisco Hotel (888 Howard Street); the Fifth and Mission Garage (833 Mission Street); the Hotel Pickwick (85 Fifth Street); Westfield Mall, also known as Westfield San Francisco Centre, which contains Bloomingdale's and Nordstrom as major tenants (865 Market Street); Moscone Center West (800 Howard Street); and the Old U.S. Mint Building (at Fifth and Mission Streets). Parks and recreational spaces in the vicinity of the project site include Mint Plaza (located directly across Mission Street from the site), Hallidie Plaza (0.1 mile to the north of the site), Boeddeker Park (0.4 mile to the northwest of the site), Gene Friend Recreation Center Park (0.4 mile to the southwest of the site), Victoria Manalo Draves Park (0.5 mile to the southwest of the site), and Union Square (0.5 mile to the northeast of the site). Yerba Buena Gardens is located 0.3 mile to the east of the site and contains hotel, office, retail, convention, cultural, and public open space uses.

The project site is located in an area with a high concentration of planned and approved projects, which are anticipated to be constructed over the next several years. Major projects in the immediate vicinity of the project site include: 250 Fourth Street (located at the intersection of Fourth and Clementina Streets), which would include the demolition of an existing three-story office building and construction of a 78,000-square-foot, 119-foot-tall hotel with 220-guest bedrooms. In addition, the 214 Sixth Street project (located at near the intersection of Sixth and Tehama Streets) would include the demolition of an existing hotel building and construction of a mixed-use building with 56 affordable dwelling units, approximately 3,074 gsf of retail space, and 15 off-street parking spaces. The 935-965 Market Street project (located at the intersection of Market and Turk Streets) includes the demolition of three buildings and construction of a five buildings comprising 375,000 gsf of commercial and parking space. Other reasonably foreseeable development projects in the vicinity of the project site are listed in **Table II-8**.

Neighborhoods Surrounding the Project Area. The site is located at the southern edge of the Downtown/Civic Center neighborhood, within the SoMa neighborhood.¹ Sub-areas within the Downtown/Civic Center neighborhood that are in close proximity to the project site include the Tenderloin and the Theatre/Retail District. Sub-areas within the SoMa Neighborhood that are in close proximity to the project site include the Yerba Buena, Transit Center District Plan, and Rincon Hill areas to the east, and the East SoMa and West SoMa areas to the south and west. **Figure III-1** in Chapter III, Plans and Policies, illustrates areas where the City has undertaken area-wide planning efforts. Each of these neighborhoods represents an evolving pattern of development that provides context for existing and future land use patterns within this area of the City. The general boundaries and overall mix of land uses and character of each of these neighborhoods are generally described below; refer to Chapter II, Plans and Policies, for a more detailed description of the planning and policy context applicable to each of these neighborhoods:

- *Downtown.* The Downtown area, which includes the project site, is centered on Market Street, approximately one block north of the project site, and is the City's center for commerce. The area contains the highest density of development within the City and contains a wide range of high-rise structures occupied by office, commercial, residential, institutional, and public uses with active ground floor retail space. Development within the Downtown area is guided by the Downtown Plan.
- *East SoMa.* The East SoMa neighborhood is characterized by an eclectic mix of commerce, entertainment and residential space. Historically, buildings consisted of small office or light industrial space (known as production, distribution and repair, or PDR space) lining the major streets, while housing units were primarily located in two- to four-story buildings lining small alleys and comprising residential enclaves. Over the past decade, the area has changed dramatically with a substantial increase in for-sale residential units and live/work lofts and the location of technology and internet businesses in the area, resulting

¹ San Francisco Planning Department, *Neighborhood Groups Map*, 2014. This document is available for review at www.sf-planning.org/index.aspx?page=1654 (accessed January 27, 2014).

in the conversion of small office and light industrial PDR space to residential and office uses. Residential uses in the East SoMa neighborhood include higher-end residential buildings in South Beach, live/work lofts, and affordable housing, such as single-room occupancy (SRO) hotels. As part of the Eastern Neighborhoods planning effort, the East SoMa Plan, adopted in early 2009, encourages the retention of space for existing businesses and residential uses, while allowing space for new development, especially affordable housing, to be built.

- *Yerba Buena*. The 87-acre Yerba Buena area extends from Market Street on the north to Harrison Street on the south and from Second Street on the east to Fourth Street on the west. Development in the Yerba Buena area, under a Redevelopment Plan that terminated in 2011, includes the Moscone Center convention and meeting facilities, Yerba Buena Gardens and Center for the Arts, several prominent museums, including the San Francisco Museum of Modern Art, the Four Seasons and Marriott hotels, the Metreon retail and entertainment center, a Children’s Garden, grocery store, and more than 2,500 residential units.
- *Transit Center District Plan*. The approximately 145-acre Transit Center District Plan area of the City is located in the southern portion of the Downtown and is generally bounded by Market, Steuart, Folsom and Third Streets. The area is primarily developed with office uses, although it also contains retail and mixed use developments, as well as limited number of residential buildings, two hotels, and a limited amount of institutional and light industrial (or PDR) uses. The recently adopted 2012 Transit Center District Plan is centered on the site of the former Transbay Terminal, which was demolished in 2010 and will be replaced by the now under-construction Transbay Transit Center (expected to be complete in 2017). One of the major goals for development in the Transit Center District Plan neighborhood under the Plan is to ensure a sufficient supply of high-density office space in the Downtown core, proximate to the high concentration of regional transit service in the area. As part of the Plan, a 1,070-foot tall office building would be located adjacent to the new Transit Center. Once constructed, it would be the most densely developed parcel within the City.

- *Rincon Hill*. Rincon Hill consists of a twelve block area south of the Transit Center District Plan neighborhood. The emerging mixed use neighborhood was once dominated by industrial uses but has experienced redevelopment over the last 30 years in the form of rehabilitated industrial buildings to house residential uses and newly constructed large-scale residential towers. Since 2005, development has been guided by the updated Rincon Hill Plan, which seeks to transform Rincon Hill into a mixed use downtown neighborhood accommodating high density housing and associated services and amenities.
- *Western SoMa*. The Western SoMa neighborhood is irregularly shaped and consists of two connected areas: one generally referred to as “north of Harrison Street,” generally bounded by 13th Street to the east, Bryant Street to the south, Seventh Street to the west, and Minna Street to the north; and the second area referred to as “south of Harrison Street,” generally bounded by Townsend Street to the south, Fourth Street to the east, Harrison Street to the north and Seventh Street to the west. The area includes a mix of land uses, including residential uses (single- and multi-family buildings, live/work lofts, and SRO developments), commercial uses (primarily office and residential), and light industrial and art-related uses. One of the major goals of the Western SoMa Community Plan is to create a “complete neighborhood” that would maintain residential uses in appropriate areas with a mix of services while at the same time minimizing conflicts between uses.

Regulatory Framework

The main documents that guide planning and land use within and around the project site include: the General Plan, including the Downtown Area Plan, South of Market Area Plan (SoMa Plan), and East South of Market Area Plan (East SoMa Plan); the South of Market Redevelopment Plan (SoMa Redevelopment Plan); the draft Central SoMa Plan (Central Corridor); and the San Francisco Planning Code. These and other applicable planning documents are summarized below and discussed in detail in Chapter III, Plans and Policies.

General Plan. The San Francisco General Plan provides general policies and objectives to guide land use decisions in the City, and embodies the City’s vision for the future physical development of San Francisco. The General Plan comprises ten elements (each of which pertains to a particular topic or resource area that is important throughout the City). The elements include: Air Quality; Arts; Commerce and Industry; Community Facilities; Community Safety; Environmental Protection; Housing; Recreation and Open Space; Transportation; and Urban Design. These elements provide a policy context for future development in the City. In addition, the General Plan includes area plans that outline goals and objectives for specific geographic and community planning areas (such as the Downtown Area).

The Urban Design Element addresses the physical character of the City and the relationship between people and their environment. Urban Design Element objectives are intended to: emphasize the characteristic pattern which gives to the city and its neighborhoods an image, a sense of purpose, and a means of orientation (Objective 1); conserve resources which provide a sense of nature, continuity with the past, and freedom from overcrowding (Objective 2); moderate major new development to complement the city pattern, the resources to be conserved, and the neighborhood environment (Objective 3); and improve the neighborhood environment to increase personal safety, comfort, pride and opportunity (Objective 4). Relevant policies include the following:

- Policy 2.4: Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.
- Policy 2.8: Maintain a strong presumption against the giving up of streets areas for private ownership or use, or for construction of public buildings.

Downtown Area Plan. The majority of the project site is located within the boundaries of the Downtown Area Plan (Downtown Plan). The Downtown Area Plan was designed to promote development in Downtown that sustains the neighborhood as a commercial, employment, and visitor center while protecting the area’s existing housing stock.

South of Market Area Plan. The southern third of the project site fronting Howard Street (coinciding with the portion of the site currently zoned RSD) is located at the northern edge of the South of Market Area Plan (SoMa Area Plan). The SoMa Area Plan contains a comprehensive analysis of the physical, social, cultural and economic conditions and forces within the area. In recent years, the SoMa Area Plan has been supplemented with additional area plans covering geographic areas in SoMa that are facing specific development pressures, widespread changes in land use, or other planning issues. These plans include the East SoMa Area Plan and Western SoMa Community Plan (both approved), and the Central SoMa Plan, which is currently in draft form.

East South of Market Plan Area. The southern boundary of the project site, the area fronting Howard Street is located adjacent to the East South of Market Plan Area (East SoMa Area Plan). The East SoMa Area Plan is one of four neighborhood plans that were developed or updated as part of the Eastern Neighborhoods Rezoning and Area Plans planning effort. The Eastern Neighborhoods planning effort was designed to guide land use changes occurring within the Plan area in a way that would foster the development of mixed-use neighborhoods while stabilizing the conversion of industrial land and encouraging the production of affordable housing.

South of Market Redevelopment Plan. The SoMa Redevelopment Plan, was established following the Loma Prieta Earthquake (which occurred in October 1989) for “the purposes of repairing, restoring, and/or replacing buildings and physical infrastructure damaged by the earthquake, and to provide economic development assistance to neighborhood-serving businesses and retail establishments.” In 2005, the Redevelopment Plan was amended to allow for redevelopment activities to go beyond post-earthquake rebuilding in order to promote economic development, affordable housing, and the aesthetic quality of the physical environment. The Redevelopment Plan contains goals in five categories: Housing; Business and Jobs; Community Quality of Life; Transportation and Parking; and Neighborhood Development and Land Use.

Draft Central South of Market Plan. In 2011, the Planning Department initiated the Central South of Market Plan (Central SoMa)² community planning effort, focused on the SoMa neighborhood areas adjacent to the Central Subway. The Draft Plan is currently undergoing environmental review and plan refinement; it has not been adopted. The focus of the Plan is to integrate land use and transportation planning associated with the Central Subway fixed-rail alignment along the Fourth Street corridor. The five major goals of the project are to: 1) support transit-oriented growth, particularly workplace growth, in the Central SoMa Area; 2) shape the area’s urban form recognizing both city and neighborhood contexts; 3) maintain the area’s vibrant economic and physical diversity; 4) support growth with improved streets, additional open space, and other elements of "complete communities;" and 5) create a model of sustainable growth. The 5M Project is independent of the Central SoMa Plan and would establish its own development controls in the context of the Central SoMa Plan, and would not be subject to, dependent or reliant on the Central SoMa’s adoption.

Planning Code. The San Francisco Planning Code (Planning Code), which incorporates the City’s Zoning Maps, implements the General Plan and governs permitted uses, densities, and configurations of buildings within the City. Currently, the project site is located within two different use districts (see **Figure II-27** in Chapter II, Project Description). The majority of the site, including the northern and central portions, is within the C-3-S (Downtown Support District), including: the Chronicle (901–933 Mission Street), Examiner (110 Fifth Street), Camelline (430 Natoma Street), and Dempster Printing (447–449 Minna Street) Buildings. The remaining southern portion of the site is within the RSD (Residential Services District), including the: Zihn (190 Fifth Street) and J.M. Kepner (910 Howard Street) Buildings, TechShop (924–926 Howard Street), and an industrial building used as storage (912 Howard Street).

² In September 2013, the Planning Department changed the name of the project from “Central Corridor” to “Central SoMa” to better reflect its geography. The purpose and content of the planning effort has not changed.

The site is located in three different height and bulk districts (see **Figure II-28** in Chapter II, Project Description). With the exception of the northernmost portion of the Chronicle Building fronting Mission Street, which is within the 90-X Height and Bulk District (establishing a 90-foot height limit), the northern and central portions of the project site are within the 160-F Height and Bulk District (establishing a 160-foot height limit, with limitations on maximum dimensions above 80 feet). The southern portion of the site is within the 40-X/85-B Height and Bulk District (establishing an 85-foot height limit, with a base height of 40 feet).

Impacts and Mitigation Measures

Significance Criteria. Implementation of the proposed project would have a significant effect on land use if the project would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the General Plan, specific plans, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Have a substantial adverse impact on the existing character of the vicinity.

Approach to Analysis. A conflict between a proposed project and applicable land use plans, policies, and regulations of an agency with jurisdiction over the project does not necessarily indicate a significant effect on the environment under CEQA. Instead, the second criterion is intended to ensure that the physical impacts of such conflicts are evaluated for their potential effect on the environment. The physical environmental impacts that could result from such conflicts are analyzed in the applicable topical sections in this EIR. Please refer to Chapter III, Plans and Policies, for a discussion of the potential conflicts of the proposed project with the City’s General Plan and other policies. The staff report for the Planning Commission will include an analysis of the project’s conformity with General Plan policies and zoning, and will discuss exceptions requested or modifications required.

Impact Evaluation. This section discusses the impacts to land use associated with implementation of the proposed project.

Impact LU-1a: The Office Scheme would not physically divide an existing community. (Less Than Significant)

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

The project site includes a mixture of small and large parcels, and corresponding buildings and surface parking lots with small and large footprints. The proposed project would result in the demolition of six one- to three-story buildings and removal of all seven of the surface parking lots on the project site to allow redevelopment/renovation of two existing buildings, and construction of four new buildings and a new connector between two buildings. Implementation of the Office Scheme would include the development of 1,509,300 net new gsf of use. The proposed project would include the merger of several lots to accommodate the larger building footprints (see **Figure II-3**, Existing and Proposed Parcel Map on page 23 of Chapter II, Project Description). The proposed project would also result in adjustments to the on-site vehicular and pedestrian circulation patterns, which would change travel patterns in and around the project site. In summary, key changes in vehicle and pedestrian circulation patterns would involve the vacation of Mary Street between Minna and Natoma Streets and realignment of that street segment to the west, and the conversion of Mary Street, between Mission and Minna Streets, into a pedestrian-only alley. No residents currently live in the project site.

Although the proposed project would alter the vehicular and pedestrian circulation pattern on the site, these improvements would facilitate pedestrian connectivity to and through the site, both for on-site residents and employees, as well as visitors from nearby neighborhoods. Specifically, new pedestrian facilities and open space areas on the site would function as connections between the surrounding Downtown, East SoMa, and Western SoMa neighborhoods and Mint Plaza, and contribute to activity levels within the proposed development itself. After project implementation, the streets within the site would provide a more pleasant pedestrian experience due to the existence of a pedestrian-only alleyway, the introduction of new open space, and the development of active ground floor uses. Changes to the vehicular circulation pattern of the project site, including the realignment of Mary Street between Minna and Natoma Streets, would not impede access to or through the site. Similarly, the conversion of the northernmost segment of Mary Street into a pedestrian-only alley would remove vehicle access, but substitute vehicle access exists approximately 250 feet to the east on Fifth Street and approximately 500 feet to the west on Sixth Street. Mary Street is an alleyway and does not serve as a major transportation route within the vicinity of the site. Therefore, the changes to Mary Street that would result from the project would not remove a means of access that would impair an established community. In addition, although building intensity would increase on the site compared to existing conditions, new buildings would not constitute a barrier to access because travel routes equivalent to existing conditions would be provided as part of the project.

In addition to the street level improvements described above, the proposed project would remove the existing pedestrian connector that crosses Minna Street and connects the Chronicle and Examiner Buildings. The Chronicle Building would be renovated and the Examiner Building would be demolished; thus removal of this pedestrian connector would not adversely affect access internal to the site. A new connector would span Natoma Street and connect the H-1 and N-2 Buildings. The new structure would facilitate circulation and connect office space between the buildings.

Section IV.D, Transportation and Circulation, provides a detailed analysis of the potential impacts associated with alterations to the vehicular and pedestrian circulation pattern and associated level of

service impacts. Mitigation measures are recommended to reduce these impacts to a less-than-significant level, to the extent feasible.

The proposed project would increase the density on the site; however, the established grouping of blocks would generally be maintained. The proposed circulation on and through the site would generally replicate the existing pattern and implementation of the Office Scheme and would not physically divide an established community.

Impact LU-1b: The Residential Scheme would not physically divide an existing community. (Less Than Significant)

The Residential Scheme would result in approximately the same pattern of development on the ground plane as the Office Scheme, and a similar level of increased density. The pedestrian and vehicle circulation pattern would be identical to that of the Office Scheme. Similar to the Office Scheme (Impact LU-1a), implementation of the Residential Scheme would not physically divide an established community because the established grouping of blocks would generally be maintained and changes to Mary Street would generally enhance pedestrian circulation and would not create a barrier to movement.

Impact LU-2a: The Office Scheme would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. (Less Than Significant)

As discussed in Chapter III, Plans and Policies, the project would redevelop an underutilized site in downtown San Francisco with a mix of uses that would complement surrounding dense urban neighborhoods, and contribute to the neighborhood's employment base and housing stock. The project would support General Plan policies relating to the creation of jobs and housing and the development of vibrant, mixed-use neighborhoods. As discussed in Chapter III, the project could conflict with policies in the General Plan related to the preservation of historic resources (due to

demolition of the Camelline Building), changes to the scale and density of the site, and policies of the SoMa Area Plan related to the introduction of office uses. Some of these provisions are proposed to be amended as part of the proposed project. The staff report for the Planning Commission will evaluate and make findings concerning the consistency of the proposed project with General Plan policies and applicable Planning Code regulations.

As part of the proposed project, the southern portion of the project site, located between Natoma and Howard Streets and currently zoned RSD, would be rezoned to the C-3-S District to be consistent with the underlying zoning for the rest of the site. According to Section 815 of the Planning Code, the RSD District is “intended to facilitate the development of high-density, mid-rise housing, including residential hotels and live/work units, while also encouraging the expansion of retail, business service and commercial and cultural arts activities.” The RSD zoning is not primarily intended to avoid or mitigate an environmental effect and is also proposed to be replaced with a C-3-S designation under the more current Central SoMa planning effort. Accordingly, the proposed rezoning would not conflict with a land use regulation adopted for the purpose of avoiding or mitigating an environmental effect. In addition, the Fifth and Mission SUD and D4D would establish development controls and design regulations that would guide the development of individual buildings, open space, and streetscapes on the project site. These development regulations would ensure that the project is developed in a way that minimizes impacts on view corridors, sunlight, and wind exposure, and protects the quality of the urban environment. Decision-makers could choose to adopt such legislative amendments as part of their consideration of project approvals. If the proposed legislative land use amendments (including the amendments to the applicable plans and policies) are adopted and implemented and other necessary project approvals are granted by the decision-makers, the potential inconsistencies between the proposed project and local plans and policies would be generally resolved and, on balance, the project would not obviously conflict with and would be generally consistent with plans, policies, and objectives applicable to the proposed project. Please refer to Chapter III, Plans and Policies, for a discussion of whether the development controls in the Fifth and Mission SUD and D4D would conflict with those in the Planning Code that currently pertain to the project site. As discussed in Section IV.G, Wind and Shadow, no significant wind or

shadow-related impacts associated with the increased building heights would occur with development of the proposed project.

As described elsewhere in Chapter IV, Environmental Setting and Impacts, the proposed project would result in environmental impacts related to the transportation and circulation system, air quality, noise, and cultural resources. Please refer to Sections IV.D, Transportation; IV.F, Air Quality; IV.E, Noise; and IV.C, Cultural Resources; for a discussion of these physical environmental impacts.

In conclusion, the conflict between a project and General Plan policy or Planning Code regulation does not, in and of itself, constitute a significant effect on the environment within the context of CEQA, and the staff report for the Planning Commission will contain the Planning Department's full analysis of the project's consistency with General Plan policies and zoning, and will discuss any exceptions requested or modifications required. The decision-makers will consider potential conflicts between the proposed project and applicable plans, policies, and regulations as part of their deliberations regarding whether or not to approve one of the project options or one of its alternatives. As a result, the proposed project would have a less-than-significant impact related to a conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. No mitigation measures are necessary.

In addition, Chapter V, Alternatives, includes the analysis of a Code Compliant Alternative (pages 598 through 609). Under the Code Compliant Alternative the site would be developed with a mix of office, residential, retail, cultural, educational, and open space uses in accordance with the existing development controls on the project site. This alternative is intended to reduce or avoid less-than-significant impacts associated with building size and mass (i.e., wind and shadow impacts), and significant impacts associated with the operation of more intense uses on the site (i.e., traffic, air quality, and noise impacts). After implementation of the alternative, there would be a total of 634,600 gsf of building space on the site. Similar to the proposed project, the Code Compliant Alternative would result in environmental impacts related to the transportation and circulation system and cultural resources, although transportation impacts may be incrementally reduced due to the smaller

amount of development that would occur on the site under the alternative. Unlike the proposed project, the Code Compliant Alternative would not result in impacts associated with regional air pollutants.

Impact LU-2b: The Residential Scheme would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. (Less Than Significant)

The Residential Scheme would result in a building envelope that is less than 1 percent smaller (in terms of gsf of building space) than the Office Scheme; however, all of the planning approvals requested for the Office Scheme would be the same for the Residential Scheme (see Impact LU-2a). Similar to the Office Scheme, the Residential Scheme would not obviously conflict with relevant planning documents and would support General Plan policies relating to job and housing creation, the development of active mixed-use neighborhoods, and other planning objectives. In addition, with implementation of the Fifth and Mission SUD and the project specific D4D, the Residential Scheme would not obviously conflict with the Planning Code.

Similar to the Office Scheme, the Residential Scheme would require the RSD parcels in the southern portion of the site to be rezoned to the C-3-S District to be consistent with the underlying zoning for the rest of the site. Since the RSD zoning is not intended to avoid or mitigate an environmental effect, the proposed rezoning would not conflict with a land use regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, similar to the conclusions above for the Office Scheme, the Residential Scheme would result in less-than-significant impacts related to a conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. No mitigation measures are necessary.

In addition, Chapter V. Alternatives, includes the analysis of a Code Compliant Alternative (pages 598 through 609). Similar to the proposed project, the Code Compliant Alternative would result in environmental impacts related to the transportation and circulation systems and cultural resources,

although transportation impacts may be incrementally reduced due to the smaller amount of development that would occur on the site under the alternative. Unlike the proposed project, the Code Compliant Alternative would not result in impacts associated with regional air pollutants.

Impact LU-3a: The Office Scheme would not have a substantial impact upon the existing character of the site's vicinity. (Less Than Significant)

As previously discussed, the project area is characterized by a wide variety of existing land uses typical of an intensely developed downtown urban environment. Land uses near the project site include hotel, retail, office, residential, convention, parking, and public facilities and building forms in the vicinity are characterized by older commercial, mixed residential/commercial, live/work, and industrial structures, as well as newer residential buildings. Building heights and ages vary widely from one- to two-story older buildings constructed in the early 20th Century to modern buildings reaching up to 32 stories. The mix of uses proposed for the project site, including office, residential, and ground floor uses, would be compatible with the existing uses found within the vicinity of the site, which are generally similar. The site is located at the southern edge of the Downtown, south of Market Street and north of the East SoMa neighborhood. Planned development within these areas includes a similar mix of commercial and residential uses, including the intensification of uses in some areas. The proposed project would continue this pattern of development. Furthermore, high density mixed residential and commercial uses would be compatible with surrounding uses because these uses are located within the vicinity of the site (although not immediately adjacent to the site). In addition, the proposed Fifth and Mission SUD and D4D would include controls to ensure that the mix of uses on the site is compatible with the surrounding neighborhood and would not adversely affect the character of surrounding land uses.

The Office Scheme would allow development of four new mid- to high-rise structures on the site, including the 434-foot-tall (23-story) Building H-1; 220-foot-tall (20-story) Building M-2; 470-foot-tall (46-story) Building N-1; 195-foot-tall (11-story) Building N-2; as well as the 145-foot-tall H-1/N-1 Connector. Although building heights in the immediate vicinity of the site, including areas to the

north, south, and west of the site, generally range between 45 to 160 feet, a concentration of 300- to 500-foot-tall buildings can be found within one to two blocks to the east, including the 340-foot-tall (32-story) Intercontinental Hotel at the northeast corner of Fifth and Howard Streets, immediately across from the project site. The proposed buildings on the project site would be up to approximately 300 feet taller than buildings surrounding the site, and thus would appear to be more massive; however, taller buildings and increased density on the site would not be inherently incompatible with surrounding areas, as the Downtown is planned to contain the most intense pattern of urban development in the City. This area of San Francisco is characterized by a pattern of varied building forms and heights, ranging from early 20th Century one- to two-story buildings to taller, more modern construction. The location of more intensely-developed uses on the site near lower-scale buildings would not inherently conflict with adjacent land uses and would not result in impacts beyond those physical impacts discussed in the other topical sections of this EIR.

The proposed land use mix and intensity of development on the site would create a mixed use community with interconnected and shared open spaces and pedestrian pathways that could be accessed by project residents and workers as well as the public, and would not adversely affect the existing character of surrounding land uses, such that physical impacts would result. Therefore, this impact would be less than significant. The impacts of the project on wind and shadow patterns, and historic architectural resources are discussed in Sections IV.C, Cultural and Paleontological Resources, and IV.G, Wind and Shadow, respectively.

Impact LU-3b: The Residential Scheme would not have a substantial impact upon the existing character of the site's vicinity. (Less Than Significant)

The Residential Scheme would have substantially the same overall gross square footage as the Office Scheme, but with more square footage devoted to residential uses, and less to office uses. Although the mix of residential and office uses would differ slightly under the Residential Scheme compared to the Office Scheme, and the Residential Scheme would include approximately 14,500-square-feet of additional open space, the overall pattern of development would generally be the same as under the

Office Scheme (see Impact LU-3a). Similar to the Office Scheme, implementation of the Residential Scheme would not adversely affect the existing character of surrounding land uses, such that physical impacts would result. Therefore, the impact would be less than significant.

Cumulative Impacts. This section discusses the cumulative impacts to land use that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-LU-1: The Office or Residential Schemes, in combination with past, present and reasonably foreseeable future projects in the vicinity of the site, would not contribute to a considerable cumulative land use impact. (Less Than Significant)

Buildout of the proposed project, in conjunction with reasonably foreseeable future projects, would not substantially alter the land use pattern within the Downtown or surrounding areas, such that a cumulatively considerable impact would result in relation to division of existing communities or development of incompatible land uses. In addition, each individual development project or plan is evaluated for consistency with applicable land use policies and programs and any physical impacts associated with policy conflicts are identified and mitigated to the extent feasible.

This analysis of the contribution of the project to cumulative land impacts is based on consideration of the reasonably foreseeable future projects identified in **Table II-8, Reasonably Foreseeable Projects in the Site Vicinity**, in Chapter II, Project Description along with development anticipated as part of the Central SoMa Plan, formerly known as the Central Corridor Plan (see Case No. 2011.1356E). The Central SoMa Plan is a draft plan that may allow for a large amount of development activity along the Central Subway, currently under construction, in the vicinity of the project site. The Central SoMa Plan, if approved, would increase the number of housing units within the Plan Area by 11,715 new

units and would create about 46,960 new jobs.³ The Plan seeks to accommodate growth primarily by removing land use restrictions to support a greater mix of uses while also emphasizing office uses in the central portion of the plan area and increasing height limits on certain sites (primarily south of Harrison Street).⁴

The proposed project would retain existing office uses on the site and introduce new office, residential, active ground floor uses, and open space to the site. The project, in conjunction with anticipated development in the vicinity, would increase the amount of office, residential, and retail space in this area of the City. In addition, these uses would be more intense than the uses that currently exist on the site. Currently, there is a total of 317,700 gsf of building space on the approximately 4-acre site and buildings extend to a maximum height of 65 feet. With implementation of the project, there would be up to 1,827,000 gsf of building space on the site and buildings would extend to a maximum of 470 feet (including permitted, non-occupiable rooftop structures). The intensification of uses on the site would continue the trend of higher-intensity development in SoMa, which would also be promoted by implementation of the Central SoMa Plan (currently in draft form). Consistent with these planning efforts, the project site is an appropriate location for high density development due to the proximity of downtown and public transit opportunities.

Reasonably foreseeable future projects in the area would also result in physical changes at the street level. Plans including the Better Streets Plan and Central SoMa Plan (if approved) would make the street system more amenable to pedestrians and bicyclists through the creation of new bike lanes and cycle tracks, pedestrian crosswalks in key locations, wider sidewalks, and new landscape plantings. In addition, new pedestrian plazas and parks would be developed throughout the area. The project would contribute to these street-level changes through the conversion of Mary Street between Mission and Minna Streets to a pedestrian alleyway, the development of Mary Court and other open

³ San Francisco Planning Department, *Central Corridor Plan, Draft for Public Review*, April 2013. This document is available for review at www.sf-planning.org/index.aspx?page=2557.

⁴ Ibid.

spaces on the site, and designing building entrances and situating ground floor uses in ways designed to activate pedestrian areas. These street level-changes, both within and outside the project site, would support the increases in intensity that would occur as a result of the project and reasonably foreseeable future projects. The street-level changes and new and renovated buildings within the site would be developed comprehensively, with open space, street infrastructure, and land uses designed to function as a unified, coordinated neighborhood. These changes would thus be compatible with the changes in land use that would occur to the broader SoMa area, including more intensified land uses and changes to the public realm that facilitate mobility throughout the area and support an increased number of residents and employees. Therefore, the proposed project would not make a substantial contribution to adverse cumulative impacts related to the physical division of an established community, conflicts with plans and policies, or the existing character of the area.

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B. POPULATION AND HOUSING

This section discusses the proposed project's potential effects on population and housing. As discussed in pages 65 to 66 of the Initial Study, Appendix A, the proposed project could directly and indirectly induce substantial population growth in San Francisco and create demand for housing beyond that proposed by the project. These potential effects are evaluated in this section of the EIR. The Initial Study found the proposed project would not displace substantial numbers of people or existing housing units as no housing units are currently located on the project site. This less-than-significant impact is discussed on page 65 of the Initial Study and is not addressed further in this section.

For purposes of this EIR analysis, the proposed project is anticipated to be constructed in two phases. Phase 1 is anticipated to begin in 2016 and extend over 48 months, and Phase 2 is anticipated to begin in 2019 and extend over a period of 60 months. Therefore, the time frame used in this analysis is 2010 for existing conditions and 2020 and 2030 for projected project conditions. The information in this section is based on U.S. Census data for the City and County of San Francisco and Census Tract 176.01; American Community Survey 2011 data; Association of Bay Area Governments (ABAG) data;¹ ABAG's *San Francisco Bay Area Housing Needs Plan 2007-2014*;² and the City's *General Plan Housing Element Parts 1 and 2, Data and Needs Analysis and Objectives and Policies*, respectively.³

¹ Association of Bay Area Governments, *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts*, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

² Association of Bay Area Governments, *San Francisco Bay Area Housing Needs Plan 2007-2014*, June 2008. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

³ City and County of San Francisco, *San Francisco General Plan, Housing Element, Part 1: Data and Needs Analysis*, March 2011; and *San Francisco General Plan, Housing Element, Part 2, Objectives and Policies*, 2009. Copies of these documents are available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Environmental Setting

The following section describes existing regional and Citywide population, housing, and employment trends, and existing population and employment characteristics on the project site.

Population and Housing. As shown in **Table IV.B-1**, San Francisco’s population grew steadily over the 40-year period between 1970 and 2010, increasing by approximately 12.5 percent. As shown in **Figure IV.B-1**, between 1970 and 1980, San Francisco experienced a decline in its population; however, between 1980 and 2000, the population bounced back and incrementally increased. Between 2000 and 2010, population growth decreased by half from the previous decade as a result of the crash of dot-com ventures and subsequent sluggish economic growth. As of 2010, San Francisco is ranked as the second most populous city in the Bay Area behind the City of San Jose, and is the most urbanized county in the Bay Area, with more than 90 percent of its land developed.⁴ The Department of Finance estimates that the City’s 2013 total population has steadily increased since 2010, to 825,111.⁵ According to ABAG projection data, a steady population increase is expected to occur through the year 2030.

Table IV.B-1: City and County of San Francisco Historical Population Growth

Year	Population	10-Year Percent Increase
1970	715,674	–
1980	678,974	-5.1%
1990	723,959	6.6%
2000	776,733	7.3%
2010	805,235	3.7%

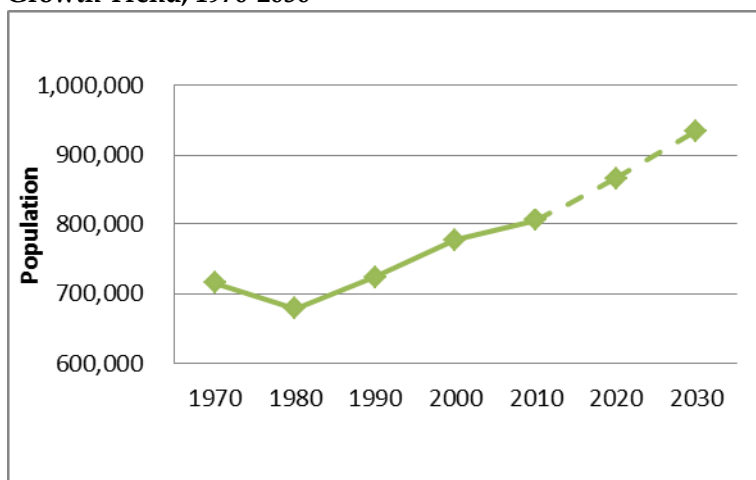
Source: U.S. Census, 2011.

⁴ Association of Bay Area Governments, *Bay Area Census, Ten Largest Bay Area Cities by 201 Ranking, 1960-2010*, 2013. This document is available for review at www.bayareacensus.ca.gov/historical/largecity.htm, (accessed February 4); and Association of Bay Area Governments, *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts*, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

⁵ California Department of Finance, Demographic Research Unit, *Table 2: E-5 City/County Population and Housing Estimates*, January 1, 2013. Revised May 10. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

ABAG provides a projection of the amount of growth that may occur within San Francisco and Bay Area over the next 20-year period. As shown in **Figure IV.B-1** and **Table IV.B-2**, between 2010 and 2020, the City’s population is projected to increase by 7.7 percent, and between 2020 and 2030, the City’s population is projected to increase by 7.8 percent. Overall, ABAG projects the City’s population will increase by 16 percent over the 20-year period between 2010 and 2030.⁶ Average annual growth rates under such projections would be approximately 0.8 percent.

Figure IV.B-1: City and County of San Francisco Population Growth Trend, 1970-2030



Source: U.S. Census, 2011 and ABAG, 2009. *Projections*.

The population of the Bay Area is expected to increase at a slightly faster rate than San Francisco. Between 2010 and 2020, the Bay Area’s population is estimated to increase by approximately 12.1 percent, and between 2020 and 2030, the Bay Area’s population is expected to increase by 8.8

⁶ Association of Bay Area Governments, *Bay Area Census, Cities, San Francisco City and County, Decennial Census Data*, 2013. This document is available for review at www.bayareacensus.ca.gov/counties/SanFranciscoCounty.htm (accessed February 4); and Association of Bay Area Governments, *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts*, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

percent.⁷ Overall, the Bay Area’s population is expected to increase by 22 percent over that 20-year period. Average annual growth rates under such projections would be approximately 1.1 percent or approximately 0.3 percent more than the projected annual growth rate for San Francisco.

Housing. The following section describes the housing characteristics of San Francisco and the Bay Area. There are no existing housing units or residential population on the project site.

Table IV.B-2: Population and Household Projections for San Francisco and Bay Area 2010-2035

Year	San Francisco		Bay Area	
	Population	Households	Population	Households
2010	805,235	376,942	7,150,739	2,785,948
2015	837,500	359,170	7,677,500	2,784,690
2020	867,100	372,750	8,018,000	2,911,000
2025	900,500	386,800	8,364,900	3,039,910
2030	934,800	400,700	8,719,300	3,171,940
2035	969,000	415,000	9,073,700	3,302,780

Notes:

- 2010 data is based on the U.S. Census 2010. Remaining data is based on Association of Bay Area Governments projections.
- According to California Department of Finance data, as of May 2013, San Francisco’s residential population is approximately 825,111 and the Bay Area’s residential population is 7,327,626.

Sources: California Department of Finance, *E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change – January 1, 2012 and 2013*, May 2013; U.S. Census 2010, Table 2: E-5 City/County Population and Housing Estimates, 2011; Association of Bay Area Governments, *2009 Projections*. These documents are available for review at the Planning Department in Case File No. 2011.0409E.

Households. ABAG defines a household as an occupied dwelling unit, which includes all persons who occupy a housing unit. As shown in **Table IV.B-2**, according to the U.S. Census, in 2010, San Francisco had 376,942 households, comprising approximately 13 percent of Bay Area households. By 2030, ABAG estimates the number of San Francisco households will increase by 6 percent to 400,700

⁷ Association of Bay Area Governments, *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts*, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

households and continue to represent approximately 13 percent of Bay Area households. In 2010, the Bay Area had 2,785,948 households, and by 2030, ABAG estimates the number of Bay Area households will increase by approximately 14 percent to 3,171,940 households.⁸

According to the 2010 Census, the average household size in San Francisco has remained relatively steady at 2.26 persons per household, which was less than the Bay Area average of 2.74 persons per household.⁹ According to the California Department of Finance, as of January 2013, the average household size in San Francisco is projected to be 2.3 persons per household. Because household population projections tend to fluctuate over time, for the purpose of population analysis, the 2010 household size of 2.26 is used.

Housing Density. Housing density is measured as average number of units per acre. According to the General Plan Housing Element, overall density in San Francisco ranges from low (14 units per acre), moderately low (36 units per acre), medium (54 units per acre), moderately high (91 units per acre), to high (283 units per acre) density housing. The City's Downtown, which includes the project area, is located within a high-density housing area, as designated by the General Plan. According to the Housing Element, the project site is located within an area of the Downtown Area Plan that has an average housing density of 283 units per acre.¹⁰

Existing Housing Stock. According to the California Department of Finance, as of May 2013, San Francisco's housing stock included a total of 378,766 units. Of these, 31,209 units are vacant, resulting

⁸ Association of Bay Area Governments, *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts*, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

⁹ U.S. Census 2010, *Table 2: E-5 City/County Population and Housing Estimates*, 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁰ City and County of San Francisco, *San Francisco General Plan, Housing Element, Part 1: Data and Needs Analysis*, March 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

in a vacancy rate of approximately 8.2 percent.¹¹ However, other sources indicate a much lower vacancy rate. RealFacts, a real estate data research group, indicates that the residential vacancy rate in San Francisco in the third quarter of 2013 was 4.8 percent.¹²

According to the California Department of Finance, San Francisco's 2013 housing stock is characterized by a majority of multi-family homes (approximately 67 percent of total), and a smaller percentage of single-family homes (approximately 33 percent of total), with few mobile homes (less than 1 percent of total).¹³ In 2011, the City's housing stock increased by 269 units, the lowest increase since 1993. However, in the 20 years between 1992 and 2011, the City's housing stock increased by an average of 1,543 units per year.¹⁴ Generally, the median price of an owner-occupied home in San Francisco is about \$1 million, and the median price of an occupied rental unit is \$3,229.¹⁵

Regional Housing Needs Allocation. As required by State law, the Housing Element of the San Francisco General Plan discusses the City's fair share allocation of regional housing needs by income group as projected by ABAG. ABAG's determination of the local share of regional housing takes into consideration the following factors: market demand for housing; employment opportunities; availability of suitable sites and public facilities; commuting patterns; type and tenure of housing need; and conversion of affordable units to market-rate units. The 2009 Housing Element Update was

¹¹U.S. Census, *Table 2: E-5 City/County Population and Housing Estimates*, 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹² Real Facts, *Market Overview*, November 20, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹³ Ibid.

¹⁴ San Francisco Planning Department, *San Francisco Housing Inventory*, May 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁵ San Francisco Chronicle, 2014. *\$1 Million City: S.F. Median Home Price Hits 7 Figures for 1st Time*. July 17.

originally adopted by the Planning Commission in March 2011 and certified by the California Department of Housing and Community Development (HCD) in July 2011.¹⁶

In May 2008, ABAG adopted the Final Regional Housing Needs Allocation (RHNA) for the period of 2007 to 2014, which allocates housing needs for different income levels among the jurisdictions within the nine-County Bay Area.¹⁷ ABAG has also adopted the Final RHNA for the period of 2014-2022 (July 18, 2013).¹⁸ Cities and counties are required to account for the RHNA in the housing elements of their General Plans. Under State law, all housing elements must be reviewed by the HCD; housing elements are certified if they comply with State law and meet certain planning objectives. According to ABAG, some public agencies and private foundations will not provide funding for housing and redevelopment projects to jurisdictions that do not have a certified housing element. In addition, jurisdictions without certified housing elements have faced lawsuits from housing advocacy organizations. While HCD requires cities and counties to show through their housing elements that they can accommodate the projected housing need, the presence of adequate amounts of land designated for residential uses does not necessarily result in the actual construction of adequate housing supplies.

Table IV.B-3 shows the RHNA for San Francisco and the Bay Area for the current 2007 to 2014 and future 2014 to 2022 planning periods. According to Table I-64 in Part I (Data and Needs Analysis) of the City's Housing Element, approximately 31,543 residential units are in the "limited pipeline,"

¹⁶ Pursuant to a court order, the 2011 certification was set aside and a partially Revised Environmental Impact Report (Revised EIR) for the 2004 and 2009 Housing Element was later certified by the Planning Commission on April 24, 2014. No changes were made to the objectives or policies contained within the Housing Element as a result of this action.

¹⁷ Association of Bay Area Governments, *San Francisco Bay Area Housing Needs Plan 2007-2014*, 2008. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁸ Association of Bay Area Governments, *Final Regional Housing Need Plan for the San Francisco Bay Area: 2014-2022*, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

meaning projects that are currently under construction, entitled projects, and projects of 250 units or less currently under Planning Department review that are expected to be completed by 2014, when the RHNA for the 2007 to 2014 period is supposed to be achieved.¹⁹ The City's estimated housing production between 2007 and 2014 would exceed its RHNA for very low-income units (7,809 units) and above-moderate-income units (19,081 units), but would have an estimated shortfall of 5,050 units for low-income units, and 3,586 units for moderate-income units (total of 8,636 units).²⁰ The City plans to annually assess its priorities to meet housing goal objectives against available resources (e.g., public subsidies), adjust program targets appropriately, and allocate resources efficiently and effectively.²¹

Employment. San Francisco is a primary employment hub for the Bay Area and contains regional employment centers and major transportation thoroughfares. Two types of employment data are described below: 1) total jobs within the community; and 2) employed residents: the number of residents of working age who actively participate in the civilian labor force. A comparison of this data can provide an indication of commute patterns in a community (i.e., whether significant out-commuting or in-commuting occurs).

¹⁹ For units in production between 2007 and 2008, units affordable to Extremely Low and Very Low Income Households do not include those units that have been acquired and/or rehabbed as permitted by Housing Element Law. The estimated immediate development (to 2014) does not include major projects under Planning review including Park Merced, Treasure Island, or Candlestick Point/Hunters Point Shipyard Phase II, which are expected to be completed after the 2014 reporting period. This limited development pipeline assumption includes projects that are currently under construction, entitled projects (approved by the Planning Department and Department of Building Inspection), and projects of 250 units or less currently under review that are expected to be completed in 2014.

²⁰ City and County of San Francisco, *San Francisco General Plan, Housing Element, Part 1: Data and Needs Analysis*, March 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²¹ *Ibid.*

Table IV.B-3: City and County of San Francisco and Bay Area Regional Housing Needs Allocations

	Housing Units Allocation (2007-2014)				Housing Units Allocation (2014-2022)			
	San Francisco	Percent (%)	Bay Area	Percent (%)	San Francisco	Percent (%)	Bay Area	Percent (%)
Very Low Income	6,589	21	48,840	23	6,234	21	46,680	24
Low Income	5,535	18	35,102	16	4,639	16	28,940	16
Moderate Income	6,754	22	41,316	19	5,460	19	33,420	18
Above Moderate Income	12,315	39	89,242	42	12,536	44	78,950	42
Total	31,193	100	214,500	100	28,869	100	187,990	100

Note: Income levels are based on Area Median Income (AMI), currently \$103,000 for a family of four in San Francisco. "Very Low" = up to 50% of AMI; "Low" = between 51% to 80% of AMI; "Moderate" = between 81% and 120% of AMI; and "Above Moderate" = above 120% of AMI.

Source: Association of Bay Area Governments, *San Francisco Bay Area Housing Needs Plan 2007-2014*, 2008; Association of Bay Area Governments, *San Francisco Bay Area Housing Needs Plan 2007-2014*, 2013. These documents are available for review at the Planning Department in Case File No. 2011.0409E.

The civilian labor force includes: 1) those who are employed (except in the armed forces); and 2) those who are unemployed but actively seeking employment. Those who have never held a job, who have stopped looking for work, or who have been unemployed for a long period of time are not considered to be in the labor force. According to the California Employment Development Department, as of August 2013, an estimated 484,400 persons in San Francisco were in the labor force.²² **Table IV.B-5** provides housing and employment data for San Francisco and Bay Area.

Total Jobs. According to ABAG's subregional study data, in 2010 San Francisco had 568,730 jobs, comprising approximately 16 percent of all jobs in the Bay Area. Jobs in San Francisco's subregional study area are expected to increase by approximately 14 percent between 2010 and 2020, from 568,730

²² California Employment Development Department, Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places*, August 2013 (Preliminary). This document is available for review at www.labormarketinfo.edd.ca.gov (accessed November 11).

to 647,190 jobs, and then by another approximately 16 percent between 2020 and 2030, from 647,190 to 748,100 (see **Table IV.B-4**).²³

Table IV.B-4: Housing and Employment Data – San Francisco and Bay Area^a

	2000		2010		2020		2030	
	San Francisco	Bay Area	San Francisco	Bay Area	San Francisco	Bay Area	San Francisco	Bay Area
Total Jobs	642,500	3,753,460	568,730	3,475,840	647,190	4,040,690	748,100	4,738,730
Employed Residents	437,533	3,452,117	411,900	3,410,300	458,300	3,962,800	520,700	4,547,100
Housing Units	329,700	2,466,020	346,680	2,667,340	372,750	2,911,000	400,700	3,171,940

^a ABAG data are from the subregional study area.

Source: Association of Bay Area Governments, 2009 *Projections*.

Total jobs in the Bay Area are projected to increase by approximately 26 percent between 2010 and 2030, from 3,475,840 jobs to 4,378,730 jobs. In 2030, jobs in San Francisco would represent approximately 16 percent of the Bay Area total and the City is expected to contribute to approximately 14 percent of the total increase in Bay Area jobs through the year 2030.²⁴

Employed Residents. ABAG defines employed residents as employed people who live in the identified community or county but do not necessarily work there. Unemployed residents are not counted as employed residents, even if they are actively seeing employment. According to ABAG, the City’s subregional study area contained 411,900 employed residents in 2010. Employed residents in San Francisco’s subregional study area are expected to increase by approximately 26 percent between 2010 and 2030, to 520,700 employed residents (see **Table IV.B-4**).²⁵ The number of employed residents decreased by approximately 6 percent between 2000 and 2010, is projected to increase by approxi-

²³ Association of Bay Area Governments, *Building Momentum, San Francisco Bay Area Population, Household, and Job Forecasts*, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²⁴ *Ibid.*

²⁵ *Ibid.*

mately 11 percent between 2010 and 2020, and is projected to increase by 14 percent between 2020 and 2030.

According to ABAG, the Bay Area’s subregional study area contained 3,410,300 employed residents in 2010. Residents employed in San Francisco represent approximately 12 percent of the Bay Area’s total. Employed residents in the Bay Area’s subregional study area are expected to increase by approximately 33 percent between 2010 and 2030, from 3,410,300 employed residents to 4,547,100 employed residents.²⁶ The City is projected to contribute approximately 10 percent of the total increase in Bay Area-employed residents through the year 2030.

As of shown in **Table IV.B-5**, in 2000, approximately 44 percent of the jobs in the City were held by commuters; over half of these workers commuted into the City via the Bay Bridge corridor. In 2010, approximately 48 percent of jobs in San Francisco were held by commuters. As a regional job center, San Francisco will continue to have a larger share of commuters than other cities in the Bay Area. The regional transportation goal in the next 10 years is to reduce commuting with a smaller share of new jobs created in San Francisco being taken by non-San Francisco residents.²⁷

Table IV.B-5: Workers Commuting into San Francisco (2000-2030)

	2000	2010	2020	2030
Commuters	257,341	300,069	338,196	357,074
San Francisco Residents	321,913	328,563	362,044	402,829
Total Jobs	579,254	628,632	700,240	759,903
Percent of Commuters (%)	44.4	47.7	48.3	47.0
Increase		49,378	71,608	59,663
Change in Commuters		42,728	80,855	18,878
Regional Goal of Percent Change of Commuters (%)		86.5	53.2	31.6

Note: This table is not a job forecast nor does it show the distribution of jobs throughout the area. Rather, it assumes that more of the future jobs in San Francisco are expected to be taken by San Francisco residents than has occurred in the past.

Source: Metropolitan Transportation Commission, 2005 and San Francisco Housing Element, 2011.

²⁶ Ibid.

²⁷ City and County of San Francisco, *San Francisco General Plan, Housing Element, Part 1: Data and Needs Analysis*, March 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Project Area Population and Employment. The project site is located within Census Tract 176.01, which is bounded by Market Street to the north, Fourth Street to the east, Howard Street to the south, and 11th Street to the west. **Table IV.B-6** shows population and housing characteristics within Census Tract 176.01 over a 10-year period.²⁸

Table IV.B-6: Population and Housing Characteristics for Census Tract 176.01

	2000	2010	Percent Increase (%)
Population	5,756	7,630	32.6
Households	2,437	4,321	77.3
Housing Units	2,556	5,296	107.2
Household Size	1.90	1.71	-10.0

Source: U.S. Census, 2000 and 2010.

There are currently approximately 943 full-time equivalent (FTE) employees on the project site. No housing units are located on the site.

Regulatory Framework

The following section describes applicable State and local policies and regulations that pertain to population and housing.

San Francisco Bay Area Regional Housing Needs Plan 2014-2022. The California Housing and Community Development Department works with regional Councils of Governments (COGs) to determine the amount of housing needed within the region. ABAG is San Francisco’s COG and released its San Francisco Bay Area Housing Needs Plan 2007-2014 in June 2008 for the 2007 to 2014 planning period. The regional housing needs allocation for the future 2014 to 2022 planning period was recently adopted in July 2013. Refer to **Table IV.B-3** for more information on the Regional Housing Needs Allocation.

General Plan. The General Plan includes objectives, policies, and programs related to population, housing, and employment within the project area, as described below.

²⁸ U.S. Census, *2000 and 2010 Demographic Profile Data (DP-1), Profile of General Population and Housing Characteristics*. This document is available for review at factfinder2.census.gov (accessed February 4, 2013).

Housing Element. As previously described, an update to the City's General Plan Housing Element was prepared in 2009, as required by State law. The 2009 Housing Element Update was adopted on March 2011 and certified by the HCD in July 2011. The 2009 Housing Element update was re-adopted in April 2014, after recertification of a Revised EIR.

Downtown Plan. The Downtown Plan contains the objectives and policies to guide land use decisions within Downtown San Francisco. The following Downtown Plan objectives and policies address employment opportunities, Downtown housing, and managing the impacts of employment growth. In addition, what was originally the Office-Affordable Housing Production Program (now the Jobs-Housing Linkage Program), implemented in concert with the Downtown Plan to mitigate impacts of the office employment growth, is also described below.

Objective 2: Maintain and improve San Francisco's position as a prime location for financial, administrative, corporate, and professional activity.

- Policy 2.1: Encourage prime Downtown office activities to grow as long as undesirable consequences of such growth can be controlled.
- Policy 2.2: Guide location of office development to maintain a compact Downtown core and minimize displacement of other uses.

Objective 7: Expand the supply of housing in and adjacent to Downtown.

- Policy 7.1: Promote the inclusion of housing in Downtown commercial developments.

Jobs-Housing Linkage Program. The Jobs-Housing Linkage Program was first imposed in 1985 as the Office-Affordable Housing Production Program (OAHPP) – one means by which the impacts of Downtown office employment growth would be managed and mitigated. The original exaction was limited to Downtown (C-3 zoning districts) office development. The program was updated and expanded in 1997. The updated nexus analysis demonstrated that the relationship between all types

of new commercial development and the need for affordable housing and expanded the geographic scope beyond Downtown to the rest of the City.²⁹

Carrying forward ongoing policy, Policy 1.9 of the 2009 Housing Element calls for enforcement and monitoring of the Jobs-Housing Linkage Program, requiring that new commercial development (as well as institutions of higher education) in the City provide affordable housing or pay an in-lieu fee to meet the housing need attributable to employment growth and new commercial development, particularly the demand for new housing affordable to low and moderate income households. The current Jobs-Housing Linkage Program applies to office and other types of developments. The program is incorporated into Section 413 of the Planning Code.

Residential Inclusionary Affordable Housing Program. The Residential Inclusionary Affordable Housing Program, contained in Planning Code Section 415, requires that all projects involving 10 or more new dwelling units pay an Affordable Housing Fee. Project sponsors may apply for an alternative to the fee in the form of providing on- or off-site affordable units.

Impacts and Mitigation Measures

Significance Criteria. Implementation of the proposed project would have a significant effect on population and housing if the project would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing; or

²⁹ Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Jobs Housing Nexus Analysis, City of San Francisco*, July 1997. Prepared for the Office of Affordable Housing Production Program, City and County of San Francisco.

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Approach to Analysis. Under the Office Scheme, the completed project would introduce 3,684 new jobs and 2,084 new residents to the project site; implementation of the Residential Scheme would introduce 2,377 new jobs to the site and 2,757 new residents.³⁰ Both schemes would directly and indirectly increase population growth on the project site and vicinity. The jobs estimate for the proposed project is however conservative, as existing jobs on the project site are not subtracted out from jobs that would result on the site with project implementation.

CEQA Guidelines Section 15064(e) notes that an economic or social change by itself would not be considered a significant effect on the environment. Population growth is considered in the context of local and regional plans and population, housing, and employment projections. Generally, a project that induces population growth is not viewed as having a significant impact on the environment unless this growth is unplanned and results in significant physical impacts on the environment. Thus, the growth and changes in employment and population and potential demand for housing that would occur with implementation of the proposed project would not be adverse physical impacts in and of themselves. However, the physical changes needed to accommodate project-related growth may have physical impacts on the environment. Project-related growth and the increase in population would primarily result in physical changes related to transportation, noise, air quality, increased demand for public services, increased demand for utility capacity, and increased demand for recreational facilities. These physical impacts are evaluated in Chapters IV.E, Transportation and Circulation; IV.F, Noise, IV.G, Air Quality; IV.I, Public Services and Recreation; and IV.J, Utilities and Service Systems of this EIR, respectively.

³⁰ Economic & Planning Systems, *Population and Employment Projections for the 5M Development*, August 20, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

This analysis compares the population, housing, and employment characteristics that would result from development of the Office or Residential Schemes to existing conditions, defined as those for 2010. The 2010 data are used because they are the most recent data consistently available for the project site across all indices. In addition, projections data for years 2020 and 2030 are also used to evaluate project impacts.

Impact Evaluation. This section discusses the impacts to population and housing associated with implementation of the proposed project.

Impact PH-1a: The Office Scheme would not substantially induce population growth, either directly or indirectly. (Less Than Significant)

Under the Office Scheme, the completed project would introduce 2,084 new residents and 3,684 new jobs to the project site, both directly and indirectly inducing population growth on the site and within San Francisco.

Population. As shown in **Table IV.B-6**, in 2010 there were 4,321 households in the Census Tract encompassing the project site, with a population of about 7,630. Development of the Office Scheme would represent a 27 percent increase in population over existing conditions. Although this increase would be substantial in the context of the existing population in the Census Tract, it would not be substantial in the context of City-wide growth, including patterns of growth identified in the Downtown Area Plan and South of Market Plan, as described below.

The increase in population on the site that would result with implementation of the Office Scheme would represent 0.26 percent of the City's 2010 population and 0.24 and 0.23 percent of the City's projected 2020 and 2030 population, respectively. ABAG projects that between 2010 and 2030, the population in the City will increase by 129,565 residents (14 percent); the proposed project would represent 1.6 percent of this projected increase. New housing associated with the proposed project would contribute to the City's regional housing supply. ABAG projects that San Francisco will build

28,869 new housing units between 2014 and 2022. The Office Scheme would fulfill about 7.2 percent of that overall increase. The project site and surrounding areas are identified as suitable for population and employment growth in various planning documents, including the General Plan, as described in Chapter III, Plans and Policies.

The northern portion of the project site (between Natoma and Mission Streets) and areas to the north and west are part of the Downtown Neighborhoods and Transit Infill Priority Development Area (PDA) recognized by ABAG, the Metropolitan Transportation Commission (MTC), and the Bay Area Air Quality Management District (BAAQMD). A PDA is an infill location of at least 100 acres served by transit that is designated for compact land development, along with investments in community improvements and infrastructure. The Downtown Neighborhoods and Transit Infill PDA is one of several PDAs in the City where 80 percent of new housing production and population growth in the City are expected to take place. In addition, the City's General Plan Housing Element identifies this area as an appropriate location for high-density housing near transit and jobs to meet the City's short- and longer-term housing production goals. Planning for more intensive new development on the few remaining underutilized blocks in downtown San Francisco to accommodate more employment and population than would otherwise be the case is one of the means by which San Francisco and the region as a whole could potentially meet state mandates under SB 375 for a Sustainable Communities Strategy to reduce per-capita greenhouse-gas emissions. The long-term projections of city and regional population and employment growth are the basis for the housing, transportation, other infrastructure, and public services and utilities planning conducted at a city and regional level. They are also the basis for efforts to secure the funding and financial support essential to realizing this level of infill development.

According to the General Plan Housing Element, the project site is located within an area of the Downtown Area Plan that has an average housing density of 283 units per acre.³¹ The Office Scheme would result in a maximum housing density of about 521 dwelling units per acre on the 4-acre project site, which would be nearly twice the average housing density within the Downtown Area Plan. However, the amount of housing and residential population within the Downtown area has increased more rapidly than in many other parts of the City and the rate of growth and increased densities are consistent with the goals of the Downtown Plan, the Transit Center District Plan, and the SoMa Plan which specify that high density development should be concentrated within the Downtown area and within close proximity to transit. Recently constructed or under construction high-density developments within the vicinity of the site are consistent with this vision and include such projects as the Transbay Tower and Terminal, which, when completed, will be the densest development in the City with approximately 6 million square feet of new office space, 100,000 square feet of retail space, and nearly 4,400 housing units on a 145-acre site. Other high density projects within the vicinity include the Mexican Museum and Residential Tower at 706 Mission Street and the 535 Mission Street Office Tower.

The overall increase in density within the Downtown Area Plan created by the project would not be considered substantial on a neighborhood-wide basis, and further residential development in the Downtown Plan area that is not already anticipated is limited due to zoning constraints that prohibit residential uses, market factors that dictate the need for a mix of uses, including those that provide new jobs, and the limited availability of underutilized sites within this area. In addition, the proposed residential density would not be considered to have a substantial adverse impact in and of itself because the site is located in close proximity to major transit corridors and employment centers in an area identified for increased growth and density under the proposed Central SoMa Plan. Also, the adverse effects of increased densities on the physical environment would be minimized through the

³¹ City and County of San Francisco, *San Francisco General Plan, Housing Element, Part 1: Data and Needs Analysis*, March 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

provision of 44,600 square feet of open space on the site, allowing for exposure to sunlight and access to the outdoors.

Taking into account the relatively modest increase in density that would occur in the Downtown Area Plan due to the Office Scheme and the consistency of project population growth with key City policy documents, the Office Scheme would not directly result in substantial population growth beyond that planned for the City.

Employment. Employment growth for the proposed project would be considered substantial if it resulted in housing demand that would exceed anticipated regional housing development. Below is a discussion of construction- and operation-period employment that would occur with development of the Office Scheme.

Construction Employees. The proposed project would directly generate temporary construction jobs in the Downtown area as a result of the proposed project. Temporary construction-period employment would vary, depending on the construction phase. However, it is assumed that an average of about 200 construction workers would be at the site per day, with a greater number during peak periods of construction.³²

It is anticipated that construction employees not already living in the City would commute from their permanent residences elsewhere in the Bay Area rather than relocate to San Francisco from more distant cities or towns; this is typical for workers in the various construction trades. Once construction phases are complete, construction workers would typically seek employment at other job sites throughout the region that require their particular construction skill. Thus, construction of the proposed project would not generate a substantial, unplanned population increase. Temporary,

³² LCW Consulting, *5M Final Transportation Impact Study*, October 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

project-related impacts associated with an increase in construction-period employment would be less than significant.

Project Employees. There are currently approximately 943 full-time equivalent (FTE) employees on the project site. The Office Scheme would increase net employment on the site by 3,684, resulting in a total of 4,627 on-site employees once the project is completed.

The employment increase on the project site would represent approximately 0.6 percent of the total jobs in the City and approximately 0.9 percent of employed residents in the City in 2010. This employment increase would represent approximately 0.6 percent of jobs and 0.8 percent of employed residents in the City in the City in 2020. This employment increase would represent approximately 0.5 percent of jobs and 0.7 percent of employed residents in the City in 2030. On a City-wide basis, this increase in employment due to implementation of the Office Scheme would not be considered significant, and would not exceed the employment growth identified by ABAG. As shown in **Table IV.B-4**, ABAG projects that the number of total jobs in the City will increase to 748,100 in 2030 and that the number of employed residents will increase to 520,700 by 2030.

Impact PH-1b: The Residential Scheme would not substantially induce population growth, either directly or indirectly. (Less Than Significant)

Under the Residential Scheme, the completed project would introduce 2,757 new residents and 2,377 new employees to the project site, both directly and indirectly inducing population growth on the site and within San Francisco. Similar to the Office Scheme, and as described below, the Residential Scheme would not directly or indirectly induce substantial population growth.

Population. As shown in **Table IV.B-6**, in 2010 there were 4,321 households in the Census Tract encompassing the project site, with a population of about 7,630. Development of the Residential Scheme would represent a 36 percent increase in population over existing conditions. Although this increase would be substantial in the context of the existing population in the Census Tract, it would

not be substantial in the context of City-wide growth, including patterns of growth identified in the Downtown Area Plan and South of Market Plan, as described below.

The increase in population on the site that would result with implementation of the Residential Scheme would represent 0.34 percent of the City's 2010 population and 0.32 and 0.29 percent of the City's projected 2020 and 2030 population, respectively. ABAG projects that between 2010 and 2030, the population in the City will increase by 129,565 residents (14 percent); the Residential Scheme would represent 2.1 percent of this projected increase. New housing associated with the proposed project would contribute to the City's regional housing supply. ABAG projects that San Francisco will build 28,869 new housing units between 2014 and 2022. The Residential Scheme would fulfill about 9.6 percent of that overall increase. The project site and surrounding areas are identified as suitable for population and employment growth in various planning documents, including the General Plan.

As discussed under Impact PH-1a, the northern portion of the project site (between Natoma and Mission Streets) and areas to the north and west are part of the Downtown Neighborhoods and Transit Infill PDA. The Downtown Neighborhoods and Transit Infill PDA is one of several locations in the City identified for accommodating anticipated housing production and population growth, an objective which is further supported by the City's General Plan Housing Element.

According to the General Plan Housing Element, the project site is located within an area of the Downtown Area Plan that has an average housing density of 283 units per acre.³³ The Residential Scheme would result in a maximum housing density of about 689 dwelling units per acre on the 4 acre project site, which would be approximately 2.4 times the average housing density within the Downtown Area Plan. However, the amount of housing and residential population within the Downtown area has increased more rapidly than in many other parts of the City and the rate of

³³ City and County of San Francisco, *San Francisco General Plan, Housing Element, Part 1: Data and Needs Analysis*, March 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

growth and increased densities are consistent with the goals of the Downtown Plan, the Transit Center District Plan, and the SoMa Plan. Further, the proposed residential density would not be considered to result in a substantial adverse impact in and of itself because the site is located in close proximity to major transit corridors and employment centers, is within an area that is currently being developed with higher densities, is identified for substantial increased growth in City planning documents, and so is appropriate for higher residential densities. In addition, the adverse effects of high densities on the physical environment would be minimized through the provision of 59,100 square feet of open space on the site, allowing for exposure to sunlight and access to the outdoors.

Taking into account the relatively modest increase in density that would occur in the Downtown Area Plan as a whole due to the Residential Scheme and the consistency of project population growth with key City policy documents, the Residential Scheme would not directly result in substantial population growth beyond that planned for the City.

Employment. Employment growth for the proposed project would be considered substantial if it resulted in housing demand that would exceed anticipated regional housing development. This topic is discussed below.

Construction Employees. Similar to the Office Scheme, the Residential Scheme would directly generate about 200 temporary construction jobs, and would not generate a substantial, unplanned population increase. Therefore, temporary, project-related impacts associated with an increase in construction-period employment would be less than significant.

Project Employees. There are currently approximately 943 FTE employees on the project site. The Residential Scheme would increase net employment on the site by 2,377, resulting in a total of 3,320 employees on the site once the project is completed.

The employment increase on the project site would represent approximately 0.6 percent of the total jobs in the City and approximately 0.8 percent of employed residents in the City in 2010. This

employment increase would represent approximately 0.4 percent of jobs and 0.5 percent of employed residents in the City in the City in 2020. This employment increase would represent approximately 0.3 percent of jobs and 0.4 percent of employed residents in the City in 2030. On a City-wide basis, this increase in employment due to implementation of the Residential Scheme would not be considered significant, and would not exceed the employment growth identified by ABAG. As shown in **Table IV.B-4**, ABAG projects that the number of total jobs in the City will increase to 748,100 in 2030 and that the number of employed residents will increase to 520,700 by 2030.

Impact PH-2a: The Office Scheme would not displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing. (Less Than Significant)

As discussed on page 65 of the Initial Study, no housing units are located on the project site; therefore, the proposed project would not displace housing units. However, the increase in employment on the site would be expected to indirectly increase demand for housing. Assuming each new employee on the project site would live alone and seek a new housing unit in the City, the Office Scheme would induce demand for 3,684 new housing units. However, this figure likely overstates the induced housing demand of the Office Scheme, as 1) some employees within the project site may already live in the City and not require new housing; 2) some project employees may share the same housing unit; and 3) many employees would be expected to seek housing outside of the City, where (in some locations) housing costs are lower.

Assuming that 47.7 percent of jobs in San Francisco are held by commuters (and 52.3 percent of jobs are held by those who live in the City), the Office Scheme would induce demand for about 1,927 housing units in the City. However, it is probable that many employees would already live in the area and would not require new housing due to the project. Therefore, this estimate of induced housing demand likely over-estimates the number of employees that would move to San Francisco as a result of the project.

As part of the Office Scheme, 914 new residential units would be constructed on the site. This number of new units would represent approximately half the estimated induced housing demand calculated per the methodology above. Depending on the number of new project employees that would share housing and that already live in the area, it is possible that the induced housing demand of the Office Scheme would exceed the amount of housing being provided on the site (that would represent an increase to the City's overall housing supply). However, a comparison of the estimated induced housing demand and the number of housing units that would be developed as part of the Office Scheme indicate that a substantial imbalance would not occur. Therefore, the Office Scheme would not create a substantial demand for housing beyond that proposed as part of the project or that could not be accommodated by existing vacant housing units.

Impact PH-2b: The Residential Scheme would not displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing. (Less Than Significant)

Similar to the Office Scheme, the increase in employment on the site under the Residential Scheme would be expected to indirectly increase demand for housing. Assuming each new employee on the project site would live alone and seek a new housing unit in the City, the Residential Scheme would induce demand for 2,377 new housing units. However, for the reasons explained above, this figure likely overstates the induced housing demand of the Residential Scheme.

Assuming that 47.7 percent of jobs in San Francisco are held by commuters (and 52.3 percent of jobs are held by those who live in the City), the Residential Scheme would induce demand for about 1,243 housing units in the City. However, it is probable that many employees would already live in the area and would not require new housing due to the project. Therefore, this estimate of induced housing demand likely over-estimates the number of employees that would move to San Francisco as a result of the project.

As part of the Residential Scheme, 1,209 new residential units would be constructed on the site. This number of new units would be just slightly less than the induced demand for housing calculated via the methodology above. Depending on the number of new project employees that would share housing and that already live in the area, it is possible that the induced housing demand of the Residential Scheme would exceed the amount of housing being provided on the site (that would represent an increase to the City's overall housing supply). However, a comparison of the estimated induced housing demand and the number of housing units that would be developed as part of the Residential Scheme indicate that a substantial imbalance would not occur. Therefore, similar to the Office Scheme, the Residential Scheme would not create a substantial demand for housing beyond that proposed as part of the project.

Cumulative Impacts. This section discusses the cumulative impacts to population and housing that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-PH-1: The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future projects, would not induce substantial population growth either directly or indirectly, displace substantial numbers of existing units, or create demand for additional housing, necessitating the construction of replacement housing. (Less Than Significant)

As discussed under Impacts PH-1a, -1b, -2a, and -2b, above, the Office Scheme or Residential Scheme would not induce substantial population growth in the area, either through housing construction or employment growth. Project-induced population growth would also not be substantial in the context of past, present, and reasonably foreseeable City-wide population growth, which is reflected in the growth projections of ABAG and other agencies, as described below.

As described under Impact PH-1a, the Office Scheme would directly induce population growth that would comprise 0.24 and 0.23 percent of the City's 2020 and 2030 population, respectively, as projected by ABAG. The population and employment growth accommodated by the proposed project is incorporated in ABAG's regional projections, which, since 2003, have been based on policy assumptions that include more infill and transit-oriented development. As described under Impact PH-1b, the Residential Scheme would directly induce population growth that would comprise 0.32 percent of the City's projected 2020 population and 0.29 percent of the City's projected 2030 population. In addition, the number of jobs generated by either the Office Scheme or Residential Scheme would be a small fraction of the total number of jobs projected by ABAG for the City in 2030. The jobs generated by the Office Scheme would represent approximately 0.5 percent of jobs projected for the City in 2030; the jobs generated by the Residential Scheme would represent approximately 0.3 percent of jobs projected for the City in 2030.

As previously discussed, the northern portion of the project site (between Natoma and Mission Streets) and areas to the north and west are part of the Downtown Neighborhoods and Transit Infill PDA. The City's General Plan Housing Element identifies this area as an appropriate location for high-density housing near transit and jobs to meet the City's short- and longer-term housing production goals. Planning for more intensive new development on the few remaining underutilized blocks in downtown San Francisco to accommodate more employment and population than would otherwise be the case is one of the means by which San Francisco and the region as a whole could potentially meet state mandates under SB 375 for a Sustainable Communities Strategy to reduce per-capita greenhouse-gas emissions. The long-term projections of city and regional population and employment growth are the basis for the housing, transportation, other infrastructure, and public services and utilities planning conducted at a city and regional level. They are also the basis for efforts to secure the funding and financial support essential to realizing this level of infill development.

This contribution to the City's future population (and employment) growth would not be substantial because: 1) it would represent a very small fraction of anticipated population growth in the City; 2)

the project site and surrounding areas are identified as suitable for population and employment growth in planning documents such as the General Plan; and 3) the northern portion of the project site is part of the Downtown Neighborhoods and Transit Infill Priority Development Area PDA, which is an area designated for compact development, investment in infrastructure, and new housing production and population growth. The project site is thus an environmentally appropriate place for the induced population growth that would occur as part of the project.

Similarly, as described under Impacts PH-2a and PH-2b, employment associated with the Office Scheme could induce demand for approximately 1,927 housing units, and employment associated with the Residential Scheme would induce demand for approximately 1,243 housing units, based on the methodology discussed as part of the Impact PH-2a and Impact PH-2b analyses. Depending on the number of new project employees that would share housing and that already live in the area, it is possible that the induced housing demand of the Office Scheme or Residential Scheme would exceed the amount of housing being provided on the site. However, a comparison of the estimated induced housing demand and the number of housing units that would be developed as part of the Office Scheme or Residential Scheme indicate that a substantial imbalance would not occur. Because the project would not substantially contribute to the chronic shortage of housing in San Francisco, it would not make a significant contribution to associated cumulative impacts, including the generation of a demand for housing that exceeds the available supply.

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C. CULTURAL AND PALEONTOLOGICAL RESOURCES

This section discusses the potential of the proposed 5M Project (project) to adversely affect cultural resources, which are buildings, structures, objects, and districts at least 50 years old¹ that may have traditional or cultural value for the historical significance they possess. A potentially significant impact to cultural and paleontological resources was identified in the Initial Study (see Appendix A, pages 66 and 67), and the potential for the proposed project to result in adverse impacts to historical resources, archaeological resources, paleontological resources, and human remains are discussed in this section.

This section begins with a summary of the cultural resources setting of the project site, including the applicable regulatory setting. Following the setting, the section presents the significance criteria used to determine whether an impact to cultural resources would be considered significant. Finally, potential impacts to cultural resources are assessed, and, where necessary, mitigation measures are identified.

Environmental Setting

This subsection describes the cultural resources setting of the project site. The setting consists of: 1) the regulatory setting for cultural resources; 2) a summary of the cultural setting of the project site; and 3) a description of known cultural resources in and adjacent to the project site.

This setting draws upon background information and historical resource evaluations including: *5M Development Project Area Historical Resource Evaluation Report*;² *Archaeological Research Design and*

¹ Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource (CCR Title 14(11.5) Section 4852 (d)(2)).

² Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Treatment Plan for the 5M Project, San Francisco, California,³ and *Historic Context Statement, South of Market Area*.⁴

Project Area Prehistoric and Historical Background.⁵ This section presents the prehistoric archaeological and historical contexts of the project area.

Prehistoric Archaeological Background. The prehistory of the San Francisco Bay Area has been the subject of archaeological inquiry for more than a century. This is particularly true along the east bayshore, where large shell mounds caught the attention of the public and researchers during the late-nineteenth century. It was not until 1910, however, that archaeologist Nels Nelson conducted the first systematic archaeological excavations in San Francisco at the Crocker site (CA-SFR-7) near Candlestick Point. Nelson identified formed stone and bone tools, shell and bone dietary debris, and 23 human burials. In 1912, archaeologist L.L. Loud excavated CA-SFR-6 at the San Francisco Presidio and identified a three-foot thick archaeological deposit that included shell and bone dietary debris.

More recently, several important prehistoric archaeological excavations have been conducted on the northern San Francisco peninsula during the past 25 years that could offer insights into potential resources within the project site. Archaeological excavations at the Sutro Baths site (CA-SFR-5, -21,

³ Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

⁴ Page & Turnbull, *Historic Context Statement, South of Market Area, San Francisco, California*, June 30, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

⁵ This section and the following historical background discussions are adapted from: San Francisco Planning Department, *Environmental Planning Preliminary Archaeological Review: Checklist*, June 26, 2012; Page and Turnbull, *Historic Context Statement, South of Market Area, San Francisco, California*, June 30, 2009; Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014; and Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. Copies of these documents are available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

and -24), the Presidio (CA-SFR-6/26), and near Fort Mason (CA-SFR-29, -30, and -31) provide seasonal land-use data, radiocarbon information, and discussion of San Francisco prehistory in relation to cultural and chronological schemes proposed for central California. Excavations at CA-SFR-26 in the Presidio recovered human skeletal remains and a cut and polished bird bone from a depth of nearly 10 feet in non-midden soil. Radiocarbon analysis yielded a date of approximately 1210 years before present (B.P.) Trenching conducted at CA-SFR-6 for the Doyle Drive project found that the site was covered by about 6 feet of fill. A radiocarbon sample from the midden of CA-SFR-6 was found to nearly match that from the human remains found at CA-SFR-26.

CA-SFR-129 is a buried site identified during the Golden Gate National Recreation Area's Crissy Field marshland restoration project. The site was intensively used circa 500 years B.P. and yielded numerous faunal remains representing shellfish, marine mammals, marine and migratory birds, terrestrial mammals, and fish. CA-SFR-129 is situated on a low mound that once rose above former active marshland.

Excavation at the Sutro Baths site (CA-SFR-5) indicated the site was used for short-term occupation or hunting and processing of food for transport elsewhere. The quantity of mussel, heat-affected rock, and charcoal, as well as sea mammal, deer, rodent, fish, and waterfowl remains at nearby CA-SFR-21 suggests that this location was intermittently used for hunting, gathering, and food processing.

Excavations at sites in the Fort Mason area (CA-SFR-29, -30, and -31) provided information about the timing and operation of regional exchange systems on the peninsula. Artifact analysis indicates that obsidian was the dominant material used for lithic tools. Fifty-three Fort Mason obsidian specimens were determined to have originated from Napa Glass Mountain and near present-day Santa Rosa. Radiocarbon dating of charcoal samples from CA-SFR-29 and shell samples from CA-SFR-30 yielded dates of approximately 1475 years B.P. and 1700 years B.P., respectively.

Native American Ethnographic Background. The northern San Francisco peninsula lies within former Ramaytush territory. The Ramaytush were a sub-group of the Ohlone, whose ancestors moved into

the San Francisco and Monterey Bay areas about 1500 years B.P. Of eight Ohlone languages, Ramaytush, or San Francisco Ohlone, was spoken by about 1,400 people in present-day San Francisco and San Mateo counties.

Based on mission records, the *Aguazio* tribelet of Ramaytush controlled the San Francisco peninsula north of San Bruno Mountain. The *Aguazio* had six recorded villages that occupied sheltered bayshore valleys or next to Misión San Francisco de Asis (commonly referred to as Mission Dolores). These six villages supplied the earliest Misión San Francisco de Asis converts. Native American labor was important for construction and repair of the Presidio and the related fortification, Castillo de San Joaquin (now occupied by Fort Point). Native Americans also worked as household servants, vaqueros, soldiers, shipbuilders, and skilled navigators and pilots.

The mission system completely disrupted native lifeways and decimated Ohlone groups. Ritual and social activities were discouraged or prohibited and, due to missionization efforts in nearby areas, San Francisco Ohlone commingled at the mission with people of differing linguistic and cultural traditions who had occupied the north and east bay areas. During the Mexican period and the subsequent secularization of the missions, Native Americans were forced to relocate, most turning to labor on surrounding ranchos. Due to the extraordinary changes that occurred in rapid succession—beginning with the earliest European settlement of the San Francisco peninsula and continuing through the American period—Ohlone culture virtually vanished from project area environs by the mid-1800s.

Early San Francisco History. European settlement of what is now San Francisco took place in 1776, with the simultaneous establishment of the Presidio of San Francisco by the Spanish Army, and the establishment of Mission Dolores by Franciscan missionaries. The era of Spanish colonial rule was relatively brief. In 1821, Mexico declared independence, taking with it the former Spanish colony of Alta California. During the Mexican period a small village grew up along a sheltered cove at the tip of the San Francisco peninsula. This village, which was called Yerba Buena, served as a minor trading center inhabited by a few hundred people of diverse nationalities. In 1839 a few streets were laid out

around a central plaza (now called Portsmouth Square), which was ringed by commercial and civic buildings. Not long after the American takeover of California in 1846, a surveyor named Jasper O'Farrell laid out Market Street from what is now the Ferry Building to Twin Peaks. Blocks north of the survey line were laid out in 50 vara⁶ square blocks, whereas blocks south of Market Street were laid out in larger 100 vara blocks. In 1847, the name Yerba Buena was changed to San Francisco.

The discovery of gold at Sutter's Mill in 1848 unleashed a massive wave of immigration, as thousands of would-be gold-seekers made their way to San Francisco. Between 1846 and 1852, the population of San Francisco mushroomed from less than 1,000 people to almost 35,000. Development of early San Francisco was concentrated around downtown and Mission Dolores, and the outlying portions of the San Francisco Peninsula remained unsettled throughout most of the City's early history.

With the decline of gold production in 1855, San Francisco's business community began to embrace other economic opportunities such as agriculture, construction, and banking. In the following decades, San Francisco's population continued to grow due to its position as the foremost financial, industrial, and shipping center of the West. By 1870 the population had reached 150,000, and just 20 years later the population had doubled to almost 300,000.

Historical Summary of Project Area. The project site is located within the South of Market area (also known as SoMa). As described in the *Historic Context Statement, South of Market Area*,⁷ "just south of downtown within an area once filled by a network of tracks and piers, the South of Market Area developed into an ideal venue for manufacturing, warehousing, and wholesale businesses." Over the course of the twentieth century, this area served as San Francisco's primary light industrial and

⁶ A *vara* is a Spanish unit of linear measurement equivalent to 2.77 feet. Fifty varas equals 138.5 feet.

⁷ Page & Turnbull, *Historic Context Statement, South of Market Area, San Francisco, California*, June 30, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

warehousing district and came to support an eclectic mix of residential, commercial, and industrial uses.

The 1906 Earthquake and Fire almost completely destroyed the SoMa area. A few buildings survived the calamity, including two near the project site: the U.S. Mint at 88 Fifth Street (now known as the “Old Mint”), and the California Casket Company Building at 959-965 Mission Street.⁸

The South of Market Historic Context Statement identifies the post-quake rebuilding of the area from the years 1906 to 1929 as the district’s single most important historical context:

During this period, the South of Market Area largely assumed its dominant physical character of low and mid-rise masonry loft buildings and associated enclaves of frame dwellings and residential hotels...Residential uses, once prominently featured throughout the South of Market Area, were confined to large residential hotels built along Mission, Howard, and 6th streets and frame flats built along narrow interior alleys in the southwestern part of the neighborhood. During the immediate post-quake period of 1906-13, insurance settlements led to the construction of new and in some cases, reconstructed light industrial buildings such as stables and warehouses. Another building boom occurred during the early-to-mid 1920s.

During this period, industrialists and developers constructed hundreds of concrete, two- and three-story industrial loft buildings on the remaining empty lots, largely building out the South of Market Area by 1929.⁹

Reconstruction proceeded more slowly in the SoMa area than in some other areas of the city, such as North Beach. This was due in part to the particular complexities related to the reconstruction of industrial areas, including securing insurance payments and assembling lots suitably large for

⁸ The California Casket Company Building was under construction at the time of the earthquake.

⁹ Page & Turnbull, *Historic Context Statement, South of Market Area, San Francisco, California*, June 30, 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

manufacturing and warehouse uses. Most of the industrial buildings constructed in the area in the 1910s and 1920s were steel frame and brick or reinforced concrete. Commercial buildings were concentrated along a few main arteries in the district and generally resembled light industrial buildings. The SoMa area was reconstructed primarily as an industrial district after the 1906 Earthquake, with its post-quake residential population less than half its pre-quake population.

In general, San Francisco's post-quake reconstruction occurred in two separate boom periods: an initial flurry of rebuilding in the years immediately following the disaster, and a second wave in the 1920s that was part of a broader nationwide real estate boom in the years following World War I. The project site includes buildings from both of these eras.

The Dempster Printing Building at 447-449 Minna Street was constructed in 1907, and is the oldest building in the project site and one of the first buildings constructed in the area after the earthquake. Along with some vacant parcels, the 1913-1915 Sanborn Fire Insurance Map of the area shows a mix of industrial and residential uses, including two residential hotels, two printing shops (including the Dempster Printing Building), a wholesale meat jobber, a sign painting company, a plumbing company, a wholesale furniture manufacturer, and a cornice works.

Six extant buildings were constructed in the project site in the 1920s: the Kepner Building (1922) at 910 Howard Street; the Camelline Building (1923) at 430 Natoma Street; the Myers Building at 924-926 Howard Street; the Chronicle Building (1924) at 901-933 Mission Street; the Zihn Building (1924) at 190 Fifth Street; and the Sweet Building (1928) at 912 Howard Street. As was true of a large portion of the buildings constructed in the area at this time, each of these buildings blended commercial and light-industrial forms. This building typology was particularly common in the blocks between Harrison and Market Streets, with the area south of Harrison Street remaining more purely industrial.

The portion of SoMa in the vicinity of the project site grew in importance as a transportation hub in the 1930s. When the San Francisco-Oakland Bay Bridge was completed in 1936, one of the primary

on-ramps was built at Fifth and Harrison Streets, two blocks south of the project site. This transformed Fifth Street into a *de facto* shipping corridor.

By the late 1940s, with the exception of the future site of the Examiner Building at 110 Fifth Street, the project site was completely developed with a variety of light industrial uses, including two machine shops, two print shops, a sheet metal works, an upholstery operation, a lamp factory, a major newspaper production facility, a lamp shade manufacturer, and a welding equipment service. Several buildings in the area had ground floor commercial shops, and a few had lofts (for light manufacturing, storage, and distribution) or lodgings above the first floor.

Following World War II, the SoMa area underwent a lengthy period of redevelopment and deindustrialization, as blue-collar jobs shifted to other Bay Area locations while white-collar jobs continued to grow in number. In the 1970s, large portions of SoMa were cleared to accommodate large-scale redevelopment projects, most notably Yerba Buena Center and the associated Moscone Convention Center. At the same time, SoMa became home to ever growing numbers of high-rise office buildings, as San Francisco's downtown grew southward. By the late 1970s, all of the buildings within the project site were owned by the Chronicle Publishing Company, the Hearst Corporation, or, due to a joint agreement, both.

The San Francisco Chronicle and San Francisco Examiner. The *San Francisco Chronicle* was established in 1865 by brothers Charles and M.H. de Young as the *Daily Dramatic Chronicle*. The paper became the *San Francisco Chronicle* in 1868, and its circulation expanded rapidly with contributions from Mark Twain, Bret Harte and other members of the local literary scene. By 1875, the *Chronicle* had the largest circulation of any newspaper west of the Mississippi River. In 1880, Charles de Young was shot and killed by Isaac M. Kalloch, whose father, Mayor Isaac Kalloch, had been shot by Charles in the tumult leading up to his election. Younger brother M.H. de Young assumed leadership of the *Chronicle* following Charles's death. In 1888, the *Chronicle* commissioned the Chicago firm of Burnham & Root to build the newspaper's new offices at 690 Market Street at the corner of Kearny and Market Streets. The Richardsonian Romanesque Chronicle Building at 690 Market Street (San Francisco Landmark

243) had a steel frame, which made it the world's first earthquake resistant building. When it opened in 1890, it was also the tallest building on the West Coast.

M.H. de Young remained publisher of the *Chronicle* until his death in 1925. The year before his death, the *Chronicle* operation was moved to a new building at 901-933 Mission Street, located in the project site. Like the 690 Market Street building, the new Gothic Revival-style building at 901-933 Mission Street had been built expressly for occupation by the *Chronicle*. The 690 Market Street building, however, was fundamentally an office building, whereas the building at 901-933 Mission was an industrial building dedicated to newspaper production.

M.H. de Young was succeeded by son-in-law George Cameron. The de Young family continued to operate the newspaper until 1993, over which time the *Chronicle* had become the largest newspaper in Northern California, the second largest on the West Coast, and the 12th largest in the United States.

The *San Francisco Examiner*, which was founded in 1863, competed with the *Chronicle* for circulation. In 1880, mining baron George Hearst purchased the flailing *San Francisco Examiner*, and George's son, William Randolph Hearst, assumed control of the *Examiner* in 1887. Hearst soon christened his newspaper "The Monarch of the Dailies" and would use the paper to pioneer a sensationalistic style that came to be known as "yellow journalism." Following success in markedly increasing the *Examiner's* circulation, Hearst bought the *New York Journal* in 1895, entering into intense competition with Joseph Pulitzer's morning and evening *New York World* papers. The Hearst Corporation continued to publish the *Examiner* until 1999.

In the 1950s, the *Chronicle* launched a period of intense competition with the *Examiner*, which had the largest circulation of any San Francisco newspaper throughout the first half of the twentieth century. The *Chronicle* emerged victorious from the so-called "circulation war," increasing its daily circulation from 194,000 in 1957 to 300,000 in 1961 and to 363,000 in 1965, surpassing the *Examiner* in the process. The circulation war came to an end in 1965, when the *Chronicle* Publishing Company entered into a Joint Operating Agreement (JOA) with the Hearst Corporation, owner of the *San Francisco Examiner*.

Under the terms of the JOA, Hearst and the Chronicle jointly owned all assets used to produce and distribute the newspapers and agreed to share revenues. In addition, the parties created the San Francisco Newspaper Agency to act as agent on behalf of both companies and to perform all business functions of the newspapers, including circulation, advertising sales, printing, distribution and personnel. The news and editorial departments of both newspapers remained entirely separate and independently operated. To facilitate operation of the JOA, in 1968 the Examiner Building (110 Fifth Street) was constructed immediately south of the Chronicle Building, and the two buildings were joined by a two-story structure spanning Minna Street (433-535 Minna Street). The editorial offices of the two newspapers were located on the third floor of their respective building, with the composing room on the bridge in between. In accordance with the terms of the JOA, both newspapers could access the central composing room, but not the offices of the other newspaper.

In the years following establishment of the JOA, the Hearst Corporation and the Chronicle Publishing Company proceeded to acquire all of the other building within the project site, including 924-926 Howard Street (1966), 430 Natoma Street (c. 1968), 910 Howard Street (1971), 912 Howard Street (1976), 190 Fifth Street (1977), and 447-449 Minna Street (date unknown, pre-1986). Once acquired, the buildings were occupied by various departments of the San Francisco Newspaper Agency.

The Chronicle was printed in the Chronicle Building until the printers were removed in 1992, at which point the paper was printed at printing plants in San Francisco on Cesar Chavez Street and the city of Richmond. Today, the paper is printed in Fremont.

In 1999, the JOA was dissolved and the Hearst Corporation acquired the *San Francisco Chronicle*, then the largest independently owned newspaper in America. To satisfy antitrust concerns, the Hearst Corporation sold the Examiner to ExIn, LLC, a corporation owned by the Fang family, publishers of the *San Francisco Independent* and the *San Mateo Independent*. The Fang family sold all three newspapers to Clarity Media Group in 2004.

Historical Architectural Resources within the Project Site. The identification of baseline conditions for historic architectural cultural resources within and adjacent to the project site included: (1) a site visit to examine and photograph the project area and environs; (2) a review of existing historical evaluations of buildings within and adjacent to the project site; (3) archival research at San Francisco Architectural Heritage, the San Francisco Public Library, the San Francisco Department of Building Inspection, the Preservation Library of the San Francisco Planning Department, and *San Francisco Chronicle* archives; and (4) a review of proposed project drawings and accompanying text.¹⁰

Three historical resources were identified within the project site: the Chronicle Building at 901-933 Mission Street, the Dempster Printing Building at 447-449 Minna Street, and the Camelline Building at 430 Natoma Street. Four known historical resources (Category A buildings) are in the immediate vicinity of the project site: the Pickwick Hotel at 85-89 Fifth Street, The Old Mint at 88 Fifth Street, the California Casket Co. at 959-965 Mission Street, and the S.F. Provident Loan Association Building¹¹ at 66 Mint Street. Two historic districts (the Western SoMa Light Industrial and Residential Historic District and the Sixth Street Lodginghouse District) are in the vicinity of the project site, although neither district encompasses the project site. **Figure IV.C-1** shows the locations of historical resources within and adjacent to the project site. A brief summary of each historical resource and its status under CEQA is provided below. **Table IV.C-1** further summarizes the cultural resource status of each building on the project site.

In 2011, the Planning Department completed the Western SoMa Community Plan Historic Resource Survey (SoMa Survey). Six parcels within the project site—the buildings at 190 Fifth Street, 910 Howard Street, 912 Howard Street, and 924-926 Howard Street and the parking lots at 172 Fifth Street and 914-918 Howard Street—were included in the SoMa Survey. When recorded in 2009, the

¹⁰ Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹¹ The building was formerly called the San Francisco Remedial Loan Association Building.

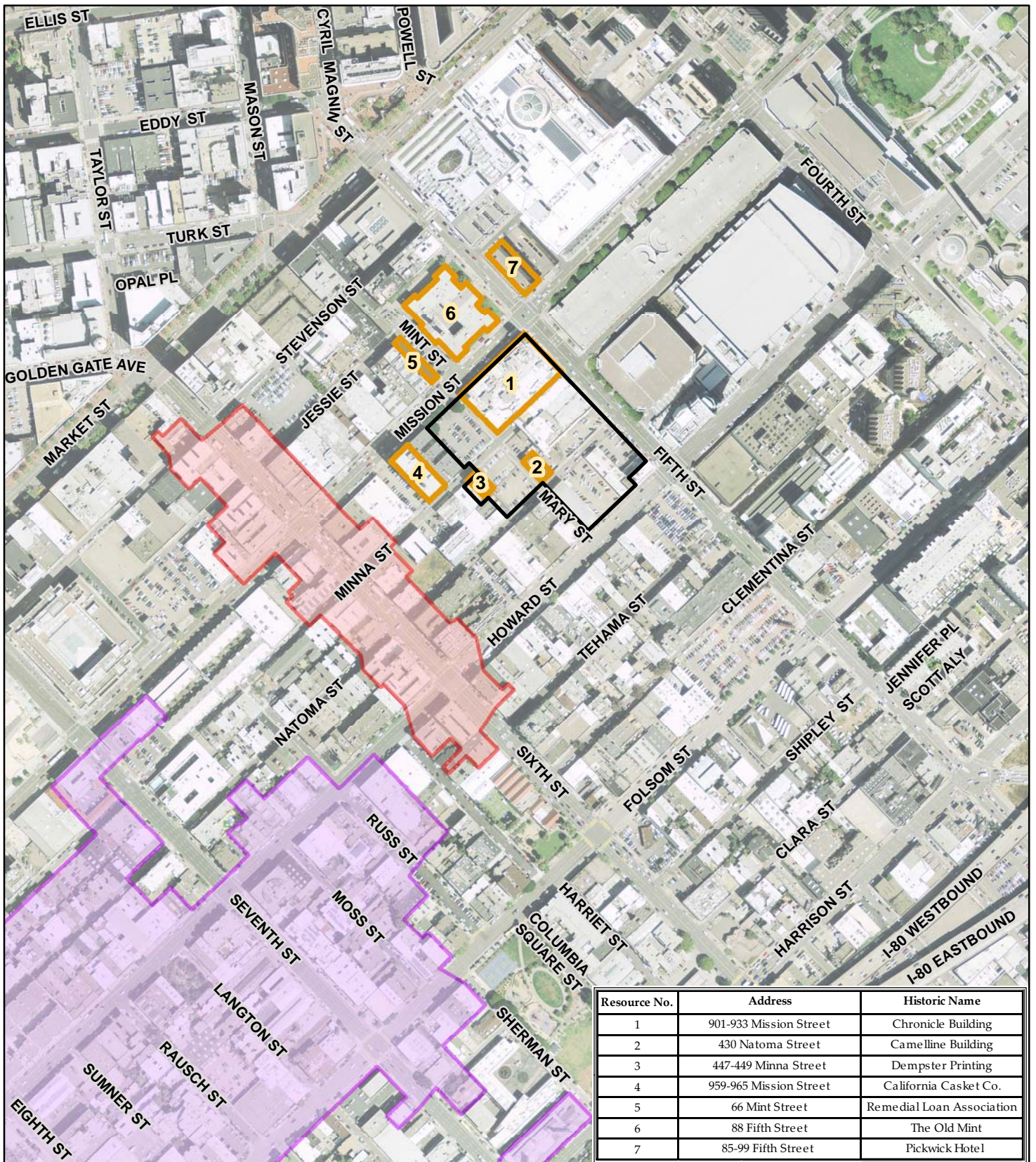
properties at 190 Fifth Street, 910 Howard Street and 924-926 Howard Street were rated as “potential contributors” to the Western SoMa Light Industrial and Residential Historic District. These preliminary ratings did not carry through to the City’s final survey findings. In the final SoMa Survey, the properties at 190 Fifth Street, 910 Howard Street and 924-926 Howard Street were given ratings of “6L,” indicating that they are not architecturally significant and not contributors to the Western SoMa Light Industrial and Residential Historic District. The building at 912 Howard Street was given a “6Z” rating, indicating it is not a historical resource.

Table IV.C-1: Project Site Cultural Resources Status Summary





Address	Historic Name	Year Built	1976 Survey	SF Architectural Heritage	Article 11	UMB Survey	SoMa Survey	CEQA Historical Resource? (Y/N)
110 Fifth Street	Examiner Building	1968						N
190 Fifth Street	Zihn Building	1924		C			6L	N
910 Howard Street	J.M. Kepner Building	1922		C			6L	N
912 Howard Street	Sweet Building	1928		C			6Z	N
924-926 Howard Street	L.A. Myers Building	1923		C			6L	N
425-433 Minna Street	None	c. 1968						N
447-449 Minna Street	Dempster Printing	1907		B		Y		Y
901-933 Mission Street	Chronicle Building	1924	2	C**	2			Y
430 Natoma Street	Camelline Building	1923		C				Y

** = Could become a B-rated building if the exterior was restored to its historical appearance

Source: Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.



LEGEND

-  Project Site
-  Historical Resource
-  Sixth Street Lodginghouse Historic District
-  Western SoMa Light Industrial and Residential Historic District

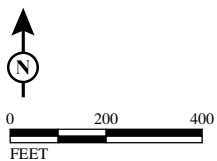


FIGURE IV.C-1

5M Project EIR
Historical Resources and Districts
in and Adjacent to the Project Site

SOURCE: USGS Orthoimagery (04/2011); City & County of San Francisco (2013).

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Neither the SoMa Survey nor the current study completed for the project¹² identified buildings in the project site that contribute to a known or potential historic district. Additional information regarding the Western SoMa Light Industrial and Residential Historic District and the Sixth Street Lodging-house District are included in the Historical Resources Adjacent to the Project Site discussion below.

901-933 Mission Street. The Chronicle Building at 901-933 Mission Street is an altered Gothic Revival style three-story, stucco-clad, reinforced concrete industrial building. The building was designed by architects Weeks & Day and built by K.E. Parker Company in 1923-1924 for the Chronicle Publishing Company. It was originally constructed in the Gothic Revival style but was extensively modified through a series of alterations in the 1950s, 1960s, and early 1970s. These alterations include re-cladding the exterior; removal of Gothic Revival details at the tower and parapet along the Mission and Fifth Street facades; in-filling of the tower's arched openings to form smaller, rectangular openings; modification of building entrances, including conversion of dock bays along Fifth Street to fixed windows; replacement of wood sash, double-hung windows on the second and third stories with aluminum fixed sash windows; and refinishing of nearly all interior spaces.



901-933 Mission Street

The Chronicle Building is locally significant under California Register Criterion 1 as the headquarters of the *San Francisco Chronicle* since 1924. The *San Francisco Chronicle* has been the Bay Area's largest newspaper since the 1960s and has been one of the most significant newspapers in the American West since the mid-nineteenth century. When sold to the Hearst Corporation in 1999, the *San Francisco Chronicle* was the largest independently-owned newspaper in the country. The Chronicle

¹² Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Building is also significant as a purpose-built newspaper printing facility from the 1920s that embodied an important shift towards using large-scale industrial processes to produce newspapers.

The Chronicle Building may also be locally significant under California Register Criterion 2 for its longstanding and direct association with several well-known columnists, including Pulitzer Prize winner Herb Caen, Stanton Delaplane, Art Hoppe, and Charles McCabe. These columnists worked in the Chronicle Building for decades and, through their use of wit and irreverent humor, entertained readers while helping to shape their perspective of local and national events.

The Chronicle Building does not appear eligible under California Register Criterion 3. The original architect was Weeks & Day, a prominent San Francisco architecture firm led by Charles Peter Weeks (1870-1928) and William Peyton Day (1883-1966). Charles Peter Weeks was educated at the École des Beaux Arts in Paris and moved to San Francisco in 1901 to work with John Galen Howard at the University of California at Berkeley. Weeks had his own office, along with several partnerships, until 1915, when he partnered with engineer William Peyton Day to form Weeks & Day. Weeks remained the firm's senior partner until his death in 1928. Weeks & Day was responsible for a number of important San Francisco buildings, including the Don Lee Building (1921), the Huntington Hotel Apartments (1925) and the Mark Hopkins Hotel (1926). Although the Chronicle Building's association with Weeks & Day would indicate possible eligibility under California Register Criterion 3, the building's extensive modifications have eliminated much of the original Gothic Revival elements designed by this firm; Due to a loss of integrity, the building no longer represents the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

The Chronicle Building does not appear eligible under California Register Criterion 4 as it does not have the ability to provide information important to the history of San Francisco, California, or the nation.

The Chronicle Building's character-defining features—which consist of those physical elements that best convey a historic building's appearance—consist of the following exterior and interior elements:¹³

- Exterior
 - Three-story height with five-story clock tower at northeast corner;
 - Prominent corner location;
 - Thirteen-bay configuration along Mission Street, seven-bay configuration along Fifth Street;
 - Main entrance along Mission Street consisting of a pointed arched opening with a wood frame with sidelights and transom;
 - Single-bay-wide arched window openings at first story along Mission and Fifth streets, with small window openings above;
 - Paired and triplicate window openings along Mission and Fifth streets at second and third stories with sloped window sills;
 - Gothic revival ornamentation at the main entrance and in the bays at either end of the Mission and Fifth Street facades, including decorative spandrel panels; extended, projecting mullions; cast relief rosettes; panels depicting important moments in printing history; tracery in the transom; and projecting window surrounds; and
 - Oriel window with corbelled base projecting from the second and third stories immediately west of the clock tower base along Mission Street.

¹³ Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

- Interior—First Floor
 - Rib-vaulted ceiling of main entrance lobby; and
 - Columns, arched openings, and exposed ceiling beams in former public business office.
- Interior—Third Floor Elevator Lobby
 - Wood elevator surrounds with carved cornices;
 - Paneled, double wood doors with semicircular, stained glass transom and sidelights with tracery;
 - Three wood doors (two partially glazed) with elaborate carved panels (vegetative motif) and carved wood cornices;
 - Conference room with partition walls composed of glazing, wood paneling, and wood mullions and wood door with elaborate carved panels; and
 - Numerous wood crown moldings and wood doors with wood surrounds throughout executive office area.

In conclusion, based on the historical evaluation conducted for the project, the Chronicle Building is a historical resource under CEQA due to its eligibility for listing in the California Register under Criterion 1 (events) and, possibly, Criterion 2 (persons). The resource retains critical elements of its integrity that convey its significance under these criteria, including integrity of location, setting, feeling, and association. Due to extensive modifications, however, both the exterior and interior character-defining features of the Chronicle Building have compromised integrity of design, materials, and workmanship and it is, therefore, not historically significant for its architecture (Criterion 3).

447-449 Minna Street. The Dempster Printing Building at 447-449 Minna Street is an early twentieth-century industrial style four-story brick building. It was constructed in 1907 for the Dempster Estate Company as an industrial loft building with ground-floor shops. The building was designed by architects William Mooser II and Alexander M. Milwain and built by J.L. Slaughter. The original businesses occupying the building consisted of the Dempster Bros printing business and Glafke Electric Company. Several residential occupants occupied the upper floors in 1907, including a laborer, a paper carrier, and janitors.



447-449 Minna Street

Few modifications to the Dempster Printing Building have been done since 1907. A City permit was issued in 1946 to repair fire damage on the fourth floor. In 1952, an additional staircase was added between the second and third floors. The parapet was reinforced in 1986, and additional seismic improvements and repairs were completed in 1991.

The Dempster Printing Building is significant under California Register Criterion 1 as an especially early building associated with the commercial and industrial development of the SoMa area following the 1906 Earthquake and Fire, the single most important historic context of the SoMa area from 1906 to 1929. It is also important for its association with the printing industry, an industry of primary importance in San Francisco in the early twentieth century.

The Dempster Printing Building is also significant under California Register Criterion 3 as a distinctive example of unreinforced masonry construction and early-twentieth-century loft architecture in the SoMa area. The building is also significant under this criterion as a notable example of the work of William Mooser II, a prominent San Francisco architect who designed several prominent San Francisco buildings, including the D. Ghirardelli Co. Plant at 900 North Point Street

and the Haslett Warehouse at 680 Beach Street. Mooser II was San Francisco's first City Architect and was particularly active during the city's re-building efforts after the 1906 Earthquake and Fire.

The Dempster Printing Building does not appear eligible under California Register criteria 2 or 4. No evidence was found indicating that the building has an important association with significant persons, and the building has no potential to yield information important to the history of San Francisco, California, or the nation.

The Dempster Printing Building's character-defining features consist of:¹⁴

- Four-story height;
- Rectangular plan;
- Variegated brick walls;
- Gable roof with a crow-step parapet of the primary (north) façade and flat parapets along east and west walls;
- On the north and south walls, bands of double hung, wood sash windows of varied light patterns and, in many cases, pivot transom;
- Single double-hung wood windows at the upper stories of east and west walls;
- Main entrance, consisting of multi-light, semicircular transom; round brick arch; and glazed wood door with metal grate composed of turned metal rails and affixed "DB" lettering;
- Multi-light wood transom above exterior door openings at the primary façade;
- Two wood panel doors on the primary façade; and

¹⁴ Ibid.

- Decorative features on primary façade, consisting of corbelled brick belt courses at each story's window sills; course of alternating flush and recessed soldier bricks at first story; and a diamond at the peak of the gabled parapet formed from corbelled brick caps.

In conclusion, based on the historical evaluation conducted for the project, the Dempster Printing Building is a historical resource under CEQA due to (1) its eligibility for listing in the California Register under Criterion 1 (events) and Criterion 3 (architecture); and (2) its listing in a local register of historical resources, the Downtown Area Plan (Article 11 of the San Francisco Planning Code), as a Category I building, indicating that it is at least 40 years old, of individual importance, and excellent in architectural design or very good in both architectural design and relationship to the environment. The resource retains a high degree of integrity of location, setting, association, and feeling as a post-quake loft building on the SoMa area. While the building has undergone a few minor alterations to the interior and ground-floor entrances, its ornamentation and form are intact, and the building retains a high degree of integrity of design, materials, and workmanship to qualify for listing in the California Register under Criterion 3.

430 Natoma Street. The Camelline Building at 430 Natoma Street is an early twentieth-century industrial style two-story, reinforced concrete building. A partial third-story penthouse is at the northwest corner of the building. The Camelline Building was constructed in 1923 for contractor Walter M. Willett and was designed by engineer R.S. Chew. Mr. Willett used the building to house his general contracting business (1923-1935) and cosmetic manufacturing operations (1936-1940).



430 Natoma Street

Alterations to the building since 1923 include removal of a concrete vault and addition of a small fireplace at an interior office space in 1958; installation of a sprinkler system in 1969; conversion to a printing facility in 1974; structural steel shoring of existing concrete beams in 1975; a new door opening at the east elevation in 1981; and various interior improvements in the late 1980s and early 1990s.

San Francisco's post-quake reconstruction occurred in two separate booms: the initial flurry of rebuilding in the years following the 1906 Earthquake and Fire and a second wave of construction that occurred in the 1920s that was part of a broader nationwide real estate boom in the years subsequent to World War I. The Camelline Building is part of this second wave of construction and is significant under California Register Criterion 3 as a well-preserved example of the type of multi-purpose, loft-style light industrial building that characterized the SoMa area's rebuilding in the 1920s. The Camelline Building does not appear eligible under California Register criteria 1, 2, or 4. No evidence was found indicating that the building is associated with significant events (Criterion 1) or persons (Criterion 2). Furthermore, the Camelline Building has no potential to yield information (Criterion 4) important to the history of San Francisco, California, or the nation.

The Camelline Building's character-defining features consist of:¹⁵

- Two-story height with partial third-story penthouse at northwest corner of building;
- Rectangular plan;
- Flat roof;
- Reinforced concrete building with painted stucco cladding scored to resemble stone;
- Fixed, multi-light, steel sash windows glazed with wire glass or textured glazing;

¹⁵ Ibid.

- Primary (south) façade: symmetric, three-bay configuration with central recessed entrance with three concrete steps; recessed panels between first- and second-story windows; and arched window headers at second story;
- Secondary (west) façade: second-story windows with operable pivot sash at the center of larger fixed sash assemblies; and
- Corbelled cornice and pedimented parapet, with the letters “CAMELLINE” on the primary façade.

In conclusion, based on the historical evaluation conducted for the project, the Camelline Building is a historical resource under CEQA due to its apparent individual eligibility for local listing under NRHP/CRHR Criterion 3 (architecture) as a well-preserved example of the type of multi-purpose, loft-style light industrial building that characterized much of the SoMa area’s rebuilding in the 1920s. While the building has undergone some alteration to the interior and entrance, its form and ornamentation is largely intact and it retains a high degree of integrity of design, materials, and workmanship to convey its significance under Criterion 3. The Camelline Building also retains integrity of location, setting, feeling, and association.

Non-Eligible Architectural Resources Within the Project Site. There are six buildings within the project site that do not qualify as historical resources under CEQA.¹⁶ These buildings consist of the Examiner Building at 110 Fifth Street, the Zihn Building at 190 Fifth Street, the J.M. Kepner Building at 910 Howard Street, the Sweet Building at 912 Howard Street, the L.A. Myers Building at 924-926 Howard Street, and a pedestrian bridge at 425-433 Minna Street connecting the Chronicle and Examiner buildings. Evaluations of these six buildings’ significance and integrity have been documented in Department of Parks and Recreation 523 (DPR 523) series forms and are included in

¹⁶ CCR 14(3) Section 15064.5(a).

the HRE.¹⁷ These six buildings do not qualify for listing in the California Register either individually or as contributors to a historic district due to insufficient significance or integrity. These buildings are not listed in, nor do they appear eligible for listing in, a local register of historical resources.

Historical Resources Adjacent to the Project Site. There are four known historical (Category A) buildings in the immediate vicinity of the project site and two recorded historic districts in the vicinity of the project (**Figure IV.C-1**). These resources consist of the Pickwick Hotel at 85-89 Fifth Street, the Old U.S. Mint at 88 Fifth Street, the S.F. Provident Loan Association Building at 66 Mint Street, the California Casket Company at 959-965 Mission Street, the Western SoMa Light Industrial and Residential Historic District, and the Sixth Street Lodginghouse Historic District. The project’s potential impacts to these four adjacent historical resources are addressed in the Impacts section below. The relationship of the historic districts to the project site is summarized below.

Western SoMa Light Industrial and Residential Historic District. The buildings within the project site at 190 Fifth Street, 910 Howard Street, and 912 Howard Street were initially recorded as “potential contributors” to the Western SoMa Light Industrial and Residential Historic District in the 2009 *SoMa Historic Context Statement*. However, the updated evaluation conducted for the proposed project determined that these buildings are outside the boundary of the Western SoMa Light Industrial and Residential Historic District.¹⁸ This district—which includes 478 contributing properties—is comprised of industrial, commercial, and residential properties constructed primarily from 1906 to circa 1936 that are significant under National Register Criterion A (California Register Criterion 1) and Criterion C (California Register Criterion 3). In the final SoMa survey, however, the eastern boundary of the Western SoMa Light Industrial and Residential Historic District was determined to lie between Sixth and Seventh Streets, west of the project site (**Figure IV.C-1**). The DPR 523 record

¹⁷ Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁸ *Ibid.*

prepared for the district includes the following explanation for why the boundary was not drawn further eastward:

“The [eastern] boundary is drawn west of Sixth Street, not quite abutting the Sixth Street Lodginghouse District. While an attempt was made to absorb that independent district into the Western SoMa Light Industrial and Residential district, the Sixth Street district is of a more unique quality and construction pattern and is best documented independently of this district. The [eastern] boundary was determined to the Eng-Skell building [1035 Howard Street], which serves as a strong anchor to the district. While there is other building stock of similar construction types, historic uses and period of development [to the east], combinations of intrusive new construction, low architectural integrity, and low quality, in combination with a distance [and] lack of continuity of feeling inhibit the district’s extension further eastward.”

Sixth Street Lodginghouse Historic District. The Sixth Street Lodginghouse Historic District is west of the project site and is situated along Sixth Street between Tehama Street in the south and between Market and Stevenson Street in the north (**Figure IV.C-1**). The Sixth Street District consists of 33 low-budget residential hotels and a few low-rise commercial buildings constructed from 1906 to 1913.¹⁹ The DPR 523 record prepared for this district indicates that it is significant under National Register of Historic Places Criterion A (California Register Criterion 1) “as the last surviving sizeable group of the very low-budget, SRO densely packed residential hotels built south of Market Street after the 1906 earthquake and fire to serve the single male seasonal workers, the industrial army, that spent its out-of-work time here.”²⁰ None of the buildings in the project site contribute to the Sixth Street

¹⁹ Bloomfield, Anne, *Department of Parks and Recreation 523 District Record for the Sixth Street Lodginghouse District*, August 1, 1997. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²⁰ Ibid.

Lodginghouse Historic District, and the technical study conducted for the project does not support an eastward expansion of the district's boundary to include the project site or a portion thereof.²¹

Archaeological Resources within the Project Site. Anthropological Studies Center (ASC) identified the baseline conditions for archaeological resources within and adjacent to the project site in an *Archaeological Research Design and Treatment Plan (ARDTP)*.²² The ARDTP included (1) background research to identify recorded archaeological deposits in and near the project site and the potential for such deposits to exist in the project site; (2) a subsurface geoarchaeological investigation to assess the potential for subsurface archaeological deposits; (3) a research design for assessing the significance of prehistoric and historic-period deposits in the project site under California Register Criterion 4 (information potential); and (4) a treatment plan to identify, evaluate, and mitigate impacts to subsurface prehistoric and historic-period archaeological deposits that may exist in the project site. The results of the ARDTP are summarized below.

Prehistoric Archaeology. During prehistory, the project site was a sloping area between several shell mound sites and "Sullivan Marsh," a large tidal wetland that historically covered the land to the southwest of the project. Previous geotechnical studies indicate that within the project vicinity, the native sand dunes are underlain by marsh deposits at depths from 25 to 35 feet below ground surface and continue to depths ranging from 34 to 43 feet below ground surface. These marsh deposits may date from a much earlier period when sea level was higher and tidal marshland extended further to the north and west than in the nineteenth century. As a result, older archaeological sites located in and around the San Francisco Bay were either submerged by sea-level rise and/or buried by

²¹ Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²² Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

sediment. For example, Middle-Holocene human remains at CA-SFR-28, located within a half-mile of the project site, were situated in Bay Mud marsh deposits 75 feet below the current ground surface.

Although no recorded prehistoric archaeological deposits have been identified in the project site, thirteen prehistoric sites have been recorded within a half-mile of the project, all buried beneath fill (**Table IV.C-2**). Except for prehistoric archaeological site CA-SFR-2, all of the sites within a half-mile of the project (**Table IV.C-2**) were identified during construction. Most were found 6 feet or more below the modern ground surface. Several of the sites listed in **Table IV.C-2** are known to be associated with dune sand, and at least one site (CA-SFR-154/H) is a shell midden situated on top of marsh deposits at or near the historic margin of the bay.

Although archaeological sites in the vicinity of the project may have been partially or completely destroyed by historic development, others have been buried by fill. Although there has been some disturbance within the project site from basement installations, the disturbance is localized and may have occurred within historic fill or within the upper portions of likely culturally sterile sand dune deposits formed within the last 500 years. Therefore, archaeological sites may occur within remaining, intact fill.

Prehistoric archaeological deposits in the vicinity of the project can be classified according to three property types: non-residential sites, residential sites, and shell mound sites. Non-residential sites contain evidence of resource acquisition and/or processing activities, or represent the mortuary practices of prehistoric people, but lack evidence of prolonged residential use. Residential sites contain evidence of permanent or semi-permanent living, such as structural remains, materials representing food processing and/or consumption, multiple fire hearths, and human graves. In the San Francisco Bay Area, such sites are commonly represented by shell midden. Shell mound sites are so named because of the high proportion of marine shell found in the midden matrix. Shell mound sites are dominated by refuse associated with the collection and processing of food and materials. In addition to the rich and varied shell inventory, the sites may also contain marine and terrestrial vertebrate taxa and abundant charcoal containing plant macrofossils. The complexity of shell mounds

warrants their treatment as a separate site type. They have both residential and non-residential characteristics.

Table IV.C-2: Recorded Prehistoric Archaeological Sites within Half-Mile of Project

Site Designation	Depth Below Surface	Cultural Remains
P-38-004499	Unknown	human remains, mortar, pestle
CA-SFR-2	5'10"-9'10"	shell, bone, cooking stones, biface, mortar, human remains
CA-SFR-28	75'5"	isolated human burial
CA-SFR-113	9'6"-17'	bone tools, flaked stone, groundstone
CA-SFR-114	9'10"-20'8"	bone tools, obsidian bifaces, features, shell beads and ornaments, human remains
CA-SFR-136/H	5'10"-8'10"	shell, bone, flaked stone
CA-SFR-147	12'1"-18'	shell, bone, sandstone "charmstone" or pipe fragment, obsidian biface, flaked stone
CA-SFR-151/H	12'5"	shell, charcoal, ash
CA-SFR-154/H	6'10"	shell, bone, groundstone, flaked stone, bone tool
CA-SFR-155	12'1"-18'	shell, bone, sandstone "charmstone" or pipe fragment, obsidian biface, flaked stone
CA-SFR-175	2'7"-3'11"	shell, marine and terrestrial fauna, shaped bone tools, flaked stone, groundstone
None	Unknown	isolated obsidian scraper
None	Unknown	"diffuse scattering of prehistoric artifacts and anthropic soil"

Source: Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Geoarchaeological Investigation. A geoarchaeological investigation was conducted for the project site to account for landscape evolution in the project site during the last 7,000 to 10,000 years and to assess the prehistoric archaeological sensitivity of specific geologic units identified during the testing. The investigation included (1) excavation of six continuous soil cores at the project site with a Geoprobe 6600 to maximum depths from 18 to 25 feet below surface, and (2) examination of the soil cores for archaeological deposits and definition of natural strata underlying the project site that may contain prehistoric archaeological deposits.

No archaeological deposits were identified in the soil cores. Five strata were identified by the geoarchaeological investigation dating from the Late Holocene, the oldest stratum dating from

approximately 1657 cal B.P., based on a radiocarbon date. The lowest—and geologically oldest—strata are associated with relatively intact dune sands, and the most recent and uppermost strata represent historical and modern fill.

The geoarchaeological study concluded that buried prehistoric archaeological deposits are unlikely to be present in the upper 20 to 25 feet of soil underlying the project site. More deeply buried prehistoric archaeological deposits may exist, however, 30 to 35 feet below the surface of the project site on the surface of the Colma Formation, which is a sandy deposit that developed during the Pleistocene approximately 80,000 to 120,000 years ago.

Historic-Period Archaeology. A variety of archaeological property types have been discovered in the SoMa area, including a historic cemetery, buried ships and wharves, architectural features, infrastructure (railroad), industrial remains, a refuse dump, and artifact-filled features or layers associated with residences and businesses. Archaeological features in the SoMa area date from the early Gold Rush through the 1906 Earthquake and Fire.

Based on archival research conducted for the project, it is anticipated that these property types (with the exception of cemeteries, ships, and wharves) may be present in the project site.²³ The potential for historic-period archaeological deposits in the project site is highest near the proposed sites for Buildings M-2, N-2, and H-1.

Areas in the project site identified as “high sensitivity” may contain artifact-filled features, such as privies and wells that are likely to have been created and to have survived to the present. The most likely locations to find artifact collections are in the rear or side yards. Such deposits are not likely to survive later construction with deep underground disturbance such as a full basement, unless the earlier construction is buried by fill. “High sensitivity” is used for parcels developed prior to circa

²³ Ibid.

1880 whose subsequent buildings did not contain basements. “Moderate sensitivity” refers to parcels with early development, but where the impacts of subsequent construction may have impacted all or some of these resources. “Low sensitivity” is used for parcels with deep basements, where any archaeological resources are likely to have been destroyed.

The following discussion describes the historical archaeological sensitivity of the proposed building sites. The discussion is summarized in **Table IV.C-3**.

Archaeological Sensitivity of Building M-1. The Chronicle Building will be renovated, not removed, as Building M-1. Due to the full basement of the Chronicle Building, the archaeological sensitivity at this location is low. The alley also has low sensitivity.

Archaeological Sensitivity of Building M-2. The lots to be impacted by Building M-2 contained one of the two buildings in 1852 and had several buildings by 1859. Some of these early buildings may have survived on the lot either *in situ* or were moved on the Minna frontage. The sensitivity is high due to shallow impacts of later development.

Archaeological resources that may exist at this location may be associated with Thomas Sawyer, a New Jersey-born fireman, and family who lived at this location from as early as the 1860s until the 1880s. In 1910, Thomas’ son Joseph still lived in the area, but on the lot just behind 935 Mission, in a newly built dwelling at 432 Minna Street.

Archaeological Sensitivity of Building N-1. The lots to be impacted by the removal of the Examiner Building complex and the construction of Building N-1 had several buildings in 1859, some of which may have survived to 1887. The sensitivity is low beneath the Examiner Building due to a full basement, but moderate in the parking and staging areas where archaeological resources associated with a Chinese laundry may exist. The Natoma alley has low sensitivity.

Archaeological Sensitivity of Building N-2. The area to be impacted by Building N-2 and surrounding public space had several buildings by 1859, but it is unclear if any survived to 1887. The sensitivity is moderate to high, and archaeological resources associated with William Harris, an African-American porter, and his family; and two Jamaican-born lodgers and their families—William Lancaster, a cook, and E. Benjamin, a janitor, may exist at this location.

Archaeological Sensitivity of Building N-3. The Dempster Printing Building will be renovated, not removed, as Building N-3. Sensitivity is moderate at this location, and archaeological materials associated with Louis Wolf, a German printer, and his family that lived at this location from as early as 1860 until the 1880s may exist.

Archaeological Sensitivity of Building H-1. The H-1 impact area was extensively developed by 1859 and several of these early buildings appear to have survived at least until 1887. Sensitivity is moderate and high in portions of this development area due to the presence of late-nineteenth and twentieth-century buildings without deep basements. The alley along Natoma has low sensitivity as does Lot 6 due to a basement in the 1924 building.

Archaeological resources that may exist at this location may be associated with Edward Tracey, an Irish teamster, and family who resided at this location from as early as 1860 until at least 1880; a Chinese laundry that operated from at least the 1880s until 1928; and a French laundry operated by Louis Godet from as early as 1870 through 1880.

Table IV.C-3: Historic Archaeological Sensitivity

Lot No.	Current/Historic Address	Historic Use to 1906	Historic Archaeological Sensitivity
Building H-1 (Bounded by Natoma, Fifth, Howard, and Mary)			
005	172 Fifth/401, 405 Natoma, 172-186 Fifth	1859 Building 1887-1899 Lodgings/commercial	High
006	190 Fifth/156, 158, 190 Fifth	1887-1899 Lodgings/commercial	Low
008	411-417 Natoma and 910 Howard/ 411, 413 Natoma, 908 Howard	1859 Buildings 1887-1899 Residential and commercial	Moderate
009	912 Howard/910 Howard	1859 Buildings 1887-1899 Residential and commercial	Moderate
012	926 Howard and 429 Natoma/ 920-926 Howard, 429 Natoma	1859 Building 1887-1899 Residential/commercial	Moderate
098	918 Howard/914, 916 Howard	1859 Building 1887-1899 Residential/commercial	High
099	Natoma	Alley	Low
Building N-3 (Corner of Minna and Proposed Alley)			
076	447-449 Minna/435 Minna	1859 Building 1887-1889 Residential	Moderate
Building M-1 (Chronicle Building and Minna Alley)			
093	901-925 Mission/100-108 Fifth, 406-424 Minna	1852-1859 Building 1887-1889 Residential/commercial	Low
094	425-433 Minna	Alley	Low
100	Minna	Alley	Low
Building M-2 (Bounded by Mission, Mary, Minna, and Private Lot)			
089	949 Mission/432 Minna, 935 Mission	1852-1859 Buildings 1887-1889 Residential/commercial	High
090	941-945 Mission/428-430 Minna, 931-933 Mission	1852-1859 Building 1887-1889 Lodgings/commercial	High
091	931 Mission/927-929 Mission, 426 Minna	1859 Building 1887-1889 Dance hall/commercial/ residential	High
Building N-1 (Bounded by Minna, Fifth, Natoma, and Building N-2)			
042	49 Mary and 430 Natoma/ 420, 422 Natoma, 21 Mary	1887-1889 Commercial	Moderate
097	110-160 Fifth/405-423 Minna, 408-422 Natoma	1859 Buildings 1887-1889 Inglewood Lodge/commercial/Chinese Laundry	Low under building; Moderate in parking lot
099	Natoma	Alley	Low

Table IV.C-3: Historic Archaeological Sensitivity

Lot No.	Current/Historic Address	Historic Use to 1906	Historic Archaeological Sensitivity
Building N-2 (Bounded by Minna, Natoma, and Mary, and Proposed Alley)			
043	435 Minna/16 Mary	1859 Building 1887-1889 Residential/commercial	High
044	44 Mary/20 Mary	1859 Building 1887-1889 Residential/commercial	High
045	50 Mary/22, 24, 26 Mary	1887-1889 Residential	High
046	436-438 Natoma/426, 428 Natoma, 28, 30 Mary	1887-1889 Residential/commercial	Moderate
047	440 Natoma/430 Natoma	1887-1889 Residential/commercial	Moderate
077	441-445 Minna	1859 Building 1887-1889 Residential	Moderate

Source: Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Archaeological Research Design. The ARDTP prepared for the project identifies the research themes, questions, and data needs that would guide evaluation of, and mitigation of impacts to, prehistoric and historical archaeological resources that may underlie the project site.²⁴ The research themes identified for the project consist of research problems that may be addressed by recovery and analysis of archaeological data that qualify a site as a historical resource under CEQA due to its eligibility for listing in the California Register under Criterion 4.

The research themes (*bold italicized*), and a brief explanation of these themes, that would guide analysis of prehistoric and historical archaeological resources underlying the project site are listed below. Research themes identified in the ARDTP consist of the following:

²⁴ Ibid.

Prehistoric Research Themes

- ***Human occupation and landscape evolution*** includes the study of how landscape changes, such as stable and unstable periods of dune formation during prehistory, affected human occupation of the landscape.
- ***Cultural chronology*** is the study of artifact assemblages to determine their age.
- ***Culture history*** includes the study of artifact assemblages and their possible association with ethnolinguistic populations in prehistory.
- ***Vertebrate and invertebrate archaeofauna variability*** includes the study of the quantities and proportions of faunal remains in archaeological assemblages. Variability in such assemblages is often explained by reference to environmental and/or social factors.
- ***Resource intensification and adaptive change*** includes the study of subsistence practices and those variables that account for resource exploitation strategies through time and space.
- ***Interaction and social change*** includes the study of intergroup trade and exchange during prehistory, i.e., to acquire tools and ceremonial items.
- ***Ceremonial use of shell mounds*** includes the study of shell mound sites as possible ceremonial centers, i.e., through their use as cemeteries.

Historic-Period Research Themes

- ***Townsite creation*** includes the study of the historical landscape, including leveling and fill episodes, to reconstruct the processes by which cities were prepared and structured.
- ***Industry*** includes the study of the physical remains of workplace buildings and structures, as well as the artifacts associated with these features, to better understand the working conditions and manufacturing processes that occurred in the project site.
- ***Services*** includes the study of commercial establishments, e.g., saloons and laundries, through analysis of the artifacts and features associated with these establishments.

- *Mercantile* includes the study of mercantile establishments, including retail establishments, to reconstruct trade networks and commodity flows, artifact availability, and architectural features of stores and establishments.
- *Residential* includes the study of residential blocks and their occupants through analysis of features and material remains.

Paleontological Resources within the Project Site. As described in the Geoarchaeological Investigation section of this chapter, soil coring was completed to characterize the geologic strata underlying the project site to a depth of 25 feet below the current ground surface. Five strata were identified, the oldest and deepest of which dates to 1657 cal. B.P. Holocene-age (11,500 cal. B.P. to present) geologic units are too recent to contain significant paleontological resources (fossils), and the upper 25 feet of soil and fill underlying the project site have a low potential for containing fossils.

Underlying the Holocene deposits at an approximate depth of 30 feet is the surface of the Colma Formation, a deposit comprised of poorly consolidated sand and mud. The Colma Formation was formed during the Pleistocene approximately 80,000 to 120,000 years ago and is of sufficient age to contain fossils of extinct species. Significant fossils, including mammoth and bison, have been recovered from the Colma Formation

Regulatory Framework

This subsection describes the environmental statutes, State and local codes, and registration programs that apply to cultural resources within the project site.

California Environmental Quality Act (CEQA). CEQA applies to all discretionary projects undertaken or subject to approval by the State's public agencies.²⁵ CEQA states that it is the policy of the State of California to "take all action necessary to provide the people of this state with ... historic environ-

²⁵ California Code of Regulations (CCR) 14(3) Section 15002(i).

mental qualities ... and preserve for future generations examples of the major periods of California history.”²⁶ Under the provisions of CEQA, “A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.”²⁷ CEQA thus requires that historical resources be taken into consideration during the planning process.²⁸ If feasible, adverse effects to the significance of historical resources must be avoided, or the effects mitigated.²⁹

CEQA Guidelines Section 15064.5(a) defines a “historical resource” as a resource which meets one or more of the following criteria:

- Listed in, or determined eligible for listing in, the California Register by the State Historical Resources Commission;
- Listed in a local register of historical resources (as defined at Public Resources Code (PRC) Section 5020.1(k));
- Identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or
- Determined to be a historical resource by a project’s lead agency.³⁰

A historical resource consists of: “Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California ... Generally, a resource shall be considered by the lead agency to be

²⁶ Public Resources Code (PRC) Section 21001(b), (c).

²⁷ CCR 14(3) Section 15064.5(b).

²⁸ CCR 14(3) Section 15064.5; PRC Section 21083.2.

²⁹ CCR 14(3) Section 15064.5(b)(4).

³⁰ CCR 14(3) Section 15064.5(a).

“historically significant” if the resource meets the criteria for listing in the California Register of Historical Resources.”³¹

A “substantial adverse change” is defined by *CEQA Guidelines* Section 15064.5 as “demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” 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 and that justify its inclusion in or eligibility for inclusion in the California Register, certain local registers, or certain historic resource surveys.

CEQA requires a lead agency to determine if an archaeological cultural resource meets the definition of a historical resource, a unique archaeological resource, or neither.³² Prior to considering potential impacts, the lead agency must determine whether an archaeological cultural resource meets the definition of a historical resource.³³ If the archaeological cultural resource meets the definition of a historical resource, then it is treated like any other type of historical resource. If the archaeological cultural resource does not meet the definition of a historical resource, then the lead agency must determine if it meets the definition of a unique archaeological resource.³⁴ In practice, however, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource. Should the archaeological cultural resource meet the definition of a unique archaeological resource, then it must be treated in accordance with *CEQA Guidelines* Section 21083.2. If the archaeological cultural resource does not meet the definition of a historical resource or an archaeological resource, then effects to the resource are not considered significant effects on the environment.

³¹ CCR 14(3) Section 15064.5(a)(3).

³² CCR 14(3) Section 15064.5(c)

³³ CCR 14(3) Section 15064.5(c)(1)

³⁴ CCR 14(3) Section 21083.2(g)

California Public Resources Code: California Register of Historical Resources. The California Register of Historical Resources (California Register) is established at California Public Resources Code Section 5024.1. The California Register is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The California Register helps government agencies identify and evaluate California's historical resources, and indicates which properties are to be protected, to the extent prudent and feasible, from substantial adverse change.³⁵ Any resource listed in, or eligible for listing in, the California Register is to be considered during the CEQA process.

A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant in accordance with one or more of the following criteria:

- Criterion 1 (Events): Is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;
- Criterion 2 (Persons): Is associated with the lives of persons important in our past;
- Criterion 3 (Architecture): Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Criterion 4 (Information Potential): Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource.³⁶ In order to protect potential resources, the State of

³⁵ PRC Section 5024.1(a).

³⁶ CCR 14(11.5) Section 4852 (d)(2).

California Office of Historic Preservation recommends documenting, and taking into consideration in the planning process, any cultural resource that is 45 years or older.³⁷

The California Register also requires a resource to possess integrity, which is defined as “the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.”³⁸ These seven aspects of integrity are defined as:

- *Location*: the place where the resource was constructed;
- *Design*: the combination of elements that create the form, plans, space, structure, and style of the resource;
- *Setting*: the physical environment of the resource, including the landscape and spatial relationship of the buildings;
- *Materials*: the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the resource;
- *Workmanship*: the physical evidence of the crafts of a particular culture or people during any given period of history;
- *Feeling*: the resource’s expression of the aesthetic or historic sense of a particular period of time; and
- *Association*: the direct link between an important historic event or person and a resource.

³⁷ California Office of Historic Preservation, *Instructions for Recording Historical Resources*, March 1995. This document is available for review at www.ohp.parks.ca.gov/pages/1054/files/manual95.pdf. The 45-year criterion is in place to account for a projected 5-year interval between resource identification and planning decisions. The criterion ensures that resources that will reach the age requirement in the interim are fully considered during the environmental review and decision-making processes.

³⁸ California Office of Historic Preservation, *California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register)*, Technical Assistance Series #6, N.D., 2011. This document is available for review at ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf

Resources that are significant, meet the age guidelines, and possess integrity will generally be considered eligible for listing in the California Register.

Local Registers of Historical Resources. The Planning Department considers a listing of historical resources approved by ordinance or via resolution of the Board of Supervisors or the Planning Commission to be a local register of historical resources for the purposes of CEQA.

Here Today. *Here Today* was the earliest survey completed by the Junior League of San Francisco. Adopted by the Board of Supervisors under Resolution No. 268-70, *Here Today* documents approximately 2,500 properties within the City and County of San Francisco. The survey files are located in the History Center at the Main Branch of the San Francisco Public Library. Generally, *Here Today* focuses on buildings and structures of conspicuous architectural quality – primarily public buildings and notable private properties. *Here Today* contains a brief section pertaining to SoMa, consisting of the waterfront area from Market Street to the San Mateo County Line. No properties in the project site were identified in *Here Today*.

1976 Citywide Architectural Survey. In 1974, as the American Bicentennial was approaching, the San Francisco Planning Department began a City-wide survey of architecturally significant buildings. The survey generated an inventory, which grew to over 10,000 properties. This survey was primarily a visual inventory of urban design quality and did not consider cultural or historical significance. The inventory assigned numerical ratings between “-2” (Detrimental) and “5” (Extraordinary) that assessed various architectural and design criteria of each building. The unpublished survey, consisting of sixty volumes of data, is on file at the Planning Department. When completed, the 1976 Architectural Survey was considered to represent 10 percent of the City’s building inventory. The survey was adopted by the Board of Supervisors under Resolution No. 7831 in 1977, and the Planning Department has been directed to use it, although the methodology is inconsistent with current *CEQA Guidelines* PRC 5024.1(g).

The 1976 Architectural Survey includes one building in the project site: the Chronicle Building at 901-933 Mission Street. The Chronicle Building received an overall rating of “2” (Good).

San Francisco Architectural Heritage. San Francisco Architectural Heritage (Heritage) is the oldest non-profit organization in San Francisco dedicated to educating the public about historic resources and advocating for their preservation. Heritage has sponsored several historic resource inventories of various neighborhoods throughout the City. The earliest of these was the *Downtown Survey*, completed in 1978 by Michael Corbett, and subsequently published in 1979 as *Splendid Survivors*. The *Splendid Survivors* inventory became the basis of Article 11 of the Downtown Area Plan (see below). In 1984, the original survey was expanded from the downtown area to include the South of Market Area in a survey called *Splendid Extended*.

The background research in *Splendid Survivors* for the most part augmented the findings of the 1976 Citywide Architectural Survey. Buildings were assigned a letter rating between “A” (Highest Importance) to “D” (Minor or No Importance). The *Splendid Survivors* survey lists the following seven buildings on the project site: the Dempster Printing Building (447-449 Minna Street), the Chronicle Building (901-933 Mission Street), 190 Fifth Street, 910 Howard Street, 912 Howard Street, 924-926 Howard Street, and 430 Natoma Street. The Dempster Printing Building received a “B” rating, indicating it is of “Major Importance.” The other six buildings received “C” ratings, indicating they are of “Contextual Importance” that provide the setting for other important buildings and add visual richness to the neighborhood. Of these C-rated buildings, the Chronicle Building was specifically identified as “C*,” with the asterisks indicating that it could become a B-rated building if the exterior was restored to its historical appearance.

The Downtown Area Plan/Article 11. The Downtown Area Plan, a component of the San Francisco General Plan, contains policies and guidance for the development of the downtown area, an important part of the City which is known for a “compact mix of activities, historical values, and

distinctive architecture and urban forms that engender a special excitement reflective of a world city.”³⁹ The Downtown Area Plan was adopted in 1985 as Article 11 of the San Francisco Planning Code. Article 11 of the City Planning Code (*Preservation of Buildings and Districts of Architectural, Historical, and Aesthetic Importance in the C-3 Districts*) contains procedures for the designation of important buildings and conservation districts, as well as for the review of changes to, or removal of, such properties in the Downtown Area.

To preserve tangible connections with the City’s past, Objective 12 of the Downtown Area Plan calls for conservation of those resources that provide connections with the various eras of the City’s historical development. Pursuant to this objective, the Downtown Area Plan contains a ratings method for evaluating potential historical resources. Outlined in Article 11 of the San Francisco Planning Code, these categories are numbered via Roman numerals (I-V), where Category “I” buildings are of the highest importance and are considered “excellent” in terms of architectural design and qualities. Category “II” buildings are considered to be in virtually the same category as Category “I” buildings, except provisions are made for structural additions. Category “III” and “IV” structures are considered contributory or “contextual” buildings that provide a historical milieu for the higher-rated Category “I” and “II” structures. Category “V” buildings are either unrated due to lack of sufficient age or due to extensive modifications.⁴⁰

The Downtown Area Plan assigned the Dempster Printing Building at 447-449 Minna Street a Category I rating, indicating that (1) the building is at least 40 years old; (2) the building is judged to be of individual importance; and (3) the building is rated excellent in architectural design or is rated very good in both architectural design and relationship to the environment. No other buildings in the

³⁹ San Francisco Planning Department, *Downtown Area Plan*, November 13, 2013. This document is available for review at www.sf-planning.org/ftp/general_plan/Downtown.htm.

⁴⁰ San Francisco Planning Department, *San Francisco Preservation Bulletin No. 11: Historic Resource Surveys*, January 2003. This document is available for review at sfpsociety.org/historicresource.html.

project site have been rated under Article 11, nor do any properties within the project site lie within an Article 11 conservation district.

Unreinforced Masonry Building (UMB) Survey. Following the 1989 Loma Prieta earthquake, the then San Francisco Landmarks Advisory Board commenced a survey of all identified UMBs within San Francisco. Anticipating the demolition of many structurally compromised UMBs as a result of seismic activity, the San Francisco Department of City Planning (precursor to the Planning Department) developed background data about UMBs for use in significance evaluations. The completed report, *A Context Statement and Architectural/Historical Survey of Unreinforced Masonry Building (UMB) Construction in San Francisco from 1850 to 1940*, was published in 1990. A copy is located in the History Center of the San Francisco Public Library. Based on previously conducted historical evaluations, the UMB survey assigns Priority Ratings of “I” (Highest Value), “II” (Second Highest Value) or “III” (Non-contributory) to surveyed buildings.

The UMB survey assigned the Dempster Printing Building (447-449 Minna Street) a Priority I rating. No other buildings in the project site are included in the UMB survey.

San Francisco City Landmarks (“Article 10 Resources”). San Francisco City Landmarks are buildings, properties, structures, sites, districts, and objects that possess “special character or special historical, architectural or aesthetic interest or value and that are an important part of the City’s historical and architectural heritage.”⁴¹ City Landmarks are important to San Francisco’s history and are significant and unique examples of the past. Adopted in 1967 as Article 10 of the City Planning Code, City Landmarks are protected from inappropriate alterations and demolitions, with all significant alterations reviewed by the Historic Preservation Commission. As of October 2012, there are 262 landmark sites, eleven historic districts, and nine structures of merit in San Francisco subject to Article 10.

⁴¹ San Francisco Planning Department, *San Francisco Preservation Bulletins Numbers 1-21*, 2004. This document is available for review at www.sf-planning.org/index.aspx?page=1827 (accessed November 13, 2013).

There are no Article 10 landmarks or structures of merit in the project site, nor is the project site located within an Article 10 historic district.

South of Market Area Survey. In 2011, the Planning Department completed the Eastern Neighborhoods SoMa Area Plan and Western SoMa Community Plan Historic Resource Survey (SoMa Survey). The SoMa Survey was conducted to assemble historic information about the built environment within the study area (bounded by Mission Street on the north, First Street on the east, Townsend Street on the south, and 13th Street on the west) and determine the significance of identified resources, including potential eligibility for inclusion in the National and California Registers. The SoMa Survey resulted in the documentation and/or assessment of 2,142 properties, of which approximately 1,467 properties were constructed in or before 1962. Several districts were also identified as part of the SoMa survey, including the Western SoMa Light Industrial and Residential Historic District located west of the project site (see district description below in the Historical Architectural Resources within and Adjacent to the Project Site section of this chapter).

Four buildings in the project site—190 Fifth Street, 910 Howard Street, 912 Howard Street, and 924-926 Howard Street—were included in the SoMa survey. The SoMa survey and evaluation of the buildings at 190 Fifth Street, 910 Howard Street, and 924-926 Howard Street assigned a California Historical Resource Status Code of “6L” to these buildings, indicating these are not architecturally significant and not contributors to the Western SoMa Light Industrial and Residential District, but that other aspects of their potential significance were not evaluated.⁴² The SoMa survey assigned the building at 912 Howard Street a California Historical Resource Status Code of “6Z,” indicating it is not a historical resource. No other buildings within the project site were recorded or evaluated as part of the SoMa Survey.

⁴² San Francisco Planning Department, *South of Market Historic Resource Survey* (survey results by address). This document is available for review at www.sf-planning.org/ftp/files/Preservation/soma_survey/ALL_SOMA_SurveyData_by_address.pdf.

San Francisco Planning Department Preservation Bulletin 16.⁴³ The San Francisco Planning Department has issued a Preservation Bulletin (No. 16), titled *San Francisco Planning Department CEQA Review Procedures for Historic Resources*, which integrates the *CEQA Guidelines* into the City's existing regulatory framework. As a certified local government and CEQA lead agency for the City and County of San Francisco, the San Francisco Planning Department has instituted guidelines and a system for CEQA review of historic resources. The Planning Department has established the categories for use in determining the significance of historic resources, based upon their evaluation and inclusion in specific registers or surveys:

- **Category A: Historic resources** (divided into two sub-categories):
 - *Category A.1: Resources listed on or formally determined to be eligible for the California Register.* These properties will be evaluated as historic resources for the purposes of CEQA. Only a change in the property's status as listed in, or determined to be eligible for listing in, the California Register of Historical Resources by the California Historic Resources Commission will preclude evaluation of the property as a historical resource under CEQA.
 - *Category A.2: Adopted local registers, and properties that have been determined to appear or may become eligible, for the California Register.* These properties will be evaluated as historical resources for purposes of CEQA. Only a preponderance of the evidence demonstrating that the resource is not historically or culturally significant will preclude evaluation of the property as a historical resource. In the case of Category A.2, resources included in an adopted survey or local register, the "preponderance of the evidence" must generally consist of evidence that the appropriate decision-maker has determined that the resource should no longer be included in the adopted survey or register. Substantiated and uncontroverted evidence of an error in professional

⁴³ San Francisco Planning Department, *San Francisco Preservation Bulletin No. 16: CEQA Review Procedures for Historic Resources*, March 31, 2008. This document is available for review at sf-planning.org/Modules/ShowDocument.aspx?documentid=5340.

judgment or a clear mistake, or destruction of the property may also be considered a “preponderance of the evidence that the property is not an historic resource.”

- **Category B: Properties requiring further consultation and review.** Category B includes properties that do not meet the criteria for listing in Categories A.1 or A.2, but for which the City has information indicating that further consultation and review will be required to evaluate whether a property is a historical resource for the purposes of CEQA.
- **Category C:** Category C includes properties that have been affirmatively determined not to be historical resources, properties less than 50 years of age, and properties for which the City has no information.

One building in the project site, the Dempster Printing Building (447-449 Minna Street), has a Planning Department Historic Resource Status Code of “A.”⁴⁴ All other buildings in the project site have been assigned a Category “B” rating, although the *Historical Resources Evaluation Report (HRE)* conducted for the project⁴⁵ includes historical evaluations of all buildings in the project site, as summarized in this section.

Impacts and Mitigation Measures

Significance Criteria. Implementation of the proposed project would have a significant effect on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5, including those resources in Article 10 or Article 11 of the San Francisco Planning Code;

⁴⁴ San Francisco Planning Department, *San Francisco Property Information Map*. This document is available for review at ec2-50-17-237-182.compute-1.amazonaws.com/PIM/.

⁴⁵ Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic features; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Approach to Analysis. This section is based on the *5M Development Project Area Historical Resource Evaluation Report*⁴⁶ and *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*.⁴⁷ As summarized in the Setting section above, these studies included extensive background research to identify historical resources, archaeological resources and human remains; field review, resource recordation, and visual analysis by a qualified architectural historian; and a geoarchaeological investigation to identify subsurface archaeological deposits and geologic strata.

Although the Anthropological Studies Center’s ARDTP does not specifically address paleontological resources (fossils), the geoarchaeological investigation included in that report informs the project site’s sensitivity for containing such resources, as discussed below under Paleontological Resource Impacts.

As described in Chapter II, Project Description, two project options are considered in the EIR: the Office Scheme and the Residential Scheme. Under both schemes, the proposed project would result in the construction of new office and active ground floor space (including office, retail, educational, and cultural uses), residential dwelling units, and open space. Associated infrastructure and accessory

⁴⁶Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

⁴⁷ Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

vehicle and bicycle parking would also be developed to support these uses. The two options are similar in massing and propose the same land use on all parcels except H-1. Both schemes would retain and renovate the Chronicle Building (901-933 Mission Street) and retain and rehabilitate the Dempster Printing Building (447-449 Minna Street) and entail demolition of all other buildings on the site and the construction of four new buildings with heights ranging from 195 to 470 feet. The overall gross square footages are substantially the same between the two schemes, with a difference of only about 20,000 gsf; however, the allocation of office and residential uses between the two schemes would vary by approximately 273,000 and 255,000 gsf, respectively. The cultural resources impacts and mitigations described below apply to both the Office Scheme and the Residential Scheme. The impacts to cultural resources would be identical for the two scenarios because: 1) the two scenarios would result in the demolition of the same buildings (including potentially historic buildings); 2) the depth of excavation during the construction period, and other elements of project construction, including the use of heavy equipment (and potential disruption of archaeological and paleontological resources and human remains) would be the same for each scenario; and 3) the building massing of the two scenarios would differ only slightly, and would not create differences in the ways that historic buildings in or around the site are seen or experienced.

Historical Resource Impacts⁴⁸

Impact CP-1: The Office Scheme or Residential Scheme would not cause a substantial adverse change in the significance of a historical resource due to: 1) the demolition of a total of five buildings at 110 Fifth Street, 190 Fifth Street, 910 Howard Street, 912 Howard Street, and 924-926 Howard Street, as well as the two-story pedestrian connector between the Chronicle and Examiner Buildings, which are not considered historical resources. (No Impact)

⁴⁸ Under CEQA, archaeological sites can also qualify as historical resources (CCR 14(3) Section 15064.5(c)). For purposes of this discussion, however, the impacts of the project to archaeological sites are discussed below in the Archaeological Resource Impacts section of this chapter.

None of these five buildings nor the pedestrian connector proposed for demolition qualify as historical resources under CEQA, as documented in the HRE.⁴⁹ They are not eligible for listing in the California Register under any criterion either individually or as contributors to a historic district, nor are these buildings specifically addressed in either Article 10 or Article 11 of the San Francisco Planning Code. Therefore, demolition of these buildings would result in no impact under CEQA.

As described below, however, care shall be exercised so that remaining historical resources in the vicinity are not physically damaged in the process of demolishing these buildings.

Impact CP-2: The Office Scheme or Residential Scheme could cause a substantial adverse change in the significance of a historical resource (including two historical resources within the project site (Chronicle Building and Dempster Printing Building) and three historical resources in the immediate vicinity of the project area (88 Fifth Street, 66 Mint Street and 955-965 Mission Street)) due to below-grade excavation and foundation work, the demolition of six buildings, possible pile driving, new building framing, and associated ground borne vibrations. (Less Than Significant with Mitigation)

Construction of subterranean parking and foundations would be undertaken as part of the project and would require below-ground excavation. In addition, removal of existing buildings and pavement could produce intermittent, substantial vibration over the course of several weeks. Additional impacts depend on the method of construction employed, such as mat slab construction, which would not generate excessive vibration levels, or impact pile driving, which could produce considerable vibration. Pile driving has the potential to generate high ground vibration levels that can cause structural damage to buildings within 200 feet. Vibration levels generated by pile driving

⁴⁹ Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

activities would vary depending on project conditions such as soil conditions, construction methods, and equipment used.

As described in Section IV.E, Noise, construction-related groundborne vibration impacts on buildings are generally assessed in terms of Peak Particle Velocity (PPV), which is a measure of the maximum speed at which a particle in the ground is moving relative to its inactive state. The Federal Transit Administration (FTA) has established industry-accepted construction-related groundborne vibration impact criteria for buildings that are extremely susceptible to vibration damage (e.g., historic or other sensitive buildings).

Given their proximity to proposed new construction, the buildings in **Table IV.C-4** may be susceptible to significant ground vibration generated by construction of the proposed project.⁵⁰

Table IV.C-4: Historical Resources and Distance from Proposed Construction

Address	Historic Name	Distance from Proposed Construction
901-933 Mission Street	Chronicle Building	25 feet from M-2; 40 feet from N-1
447-449 Minna Street	Dempster Printing	40 feet from M-2; 120 feet from N-1
88 Fifth Street	The Old Mint	115 feet from M-2; 270 feet from N-1
66 Mint Street	Provident Loan Association	75 feet from M-2; 275 feet from N-1
959-965 Mission Street	California Casket Co.	90 feet from M-2

Source: Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Due to the scope of construction and the proximity of the five historical resources listed above, there is a potentially significant impact due to ground borne vibrations from construction, especially if pile driving is used as a construction method. Even if pile driving is not used as a construction method,

⁵⁰ No other identified historical resources (Category A) are within 250 feet of the project site. In particular, construction-related impacts to the Pickwick Hotel at 85-99 Fifth Street are not anticipated. The building is approximately 290 feet from N-1 at its nearest point, and nearly 400 feet from M-2.

the five historical resources may still be significantly impacted depending on the construction methods used.

Mitigation Measure M-CP-2a: Prior to demolition and construction of any building, a historic preservation architect and a structural engineer shall undertake an existing condition study of the following five buildings:

- 901-933 Mission Street;
- 447-449 Minna Street;
- 88 Fifth Street;
- 66 Mint Street; and
- 959-965 Mission Street.

The existing condition studies will establish the baseline condition of each building prior to demolition and construction, including the location and extent of any visible cracks or spalls. For each resource, the documentation shall include written descriptions and photographs, and shall include those physical characteristics of the resource that convey its historic significance and that justify its classification as a historical resource. The documentation will be submitted to the Planning Department Preservation Technical Specialist for review and approval.

The historical architect and structural engineer shall monitor the five historical resources identified above during demolition and construction and report any changes to existing conditions, including, but not limited to, expansion of existing cracks, new spalls, or other exterior deterioration. The structural engineer will consult with the historic preservation architect, especially if any problems with character-defining features of a historic resource are discovered. If in the opinion of the structural engineer, in consultation with the historic preservation architect, substantial adverse impacts to historical resources related to construction activities are found during construction, the monitoring team shall so inform the project sponsor or sponsor's designated representative responsible for construction activities.

Monitoring reports shall be submitted on a periodic basis to the Planning Department Preservation Technical Specialist assigned to the project. The Preservation Technical Specialist, in consultation with the structural engineer and historic preservation architect, shall establish the frequency of monitoring and reporting.

The project applicant shall adhere to the monitoring team's recommendations for corrective measures, including halting construction in situations where construction activities will imminently endanger historic resources. The project applicant will respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by the project applicant's designated representative. Any new cracks or other changes in any of the five historical resources identified above will be compared to pre-construction conditions and a determination made as to whether the proposed project could have caused such damage. In the event that the project is demonstrated to have caused any damage, such damage will be repaired in accordance with the requirements of the applicable Secretary of the Interior Standards for the Treatment of Historic Properties.

Mitigation Measure M-CP-2b: Prior to construction, a qualified geologist or other professional with expertise in ground vibration and its effect on existing structures shall determine the construction equipment and methods that will generate the groundborne vibration levels (as measured in PPV) that do not exceed those identified for the protection of historic buildings in the FTA's *Transit Noise and Vibration Impact Assessment*.⁵¹ The construction equipment and methods that will generate no more than the maximum groundborne vibration levels, and that can be feasibly implemented, shall be used to construct the project. If pile-driving is being used, initial pile-driving shall be monitored and if vibrations are above threshold levels, modifications shall be made to reduce vibrations to below established levels. A copy of the contract

⁵¹ Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

specifications and monitoring reports shall be provided to the Planning Department Preservation Technical Specialist assigned to the project.

Mitigation Measure M-CP-2c: Prior to demolition and construction, a registered structural engineer with experience in the rehabilitation and restoration of historic buildings shall determine whether, due to the nature of the site's soils, the proposed method of soil removal, and the existing foundations of the historic buildings, project-related excavations have the potential to cause settlement such that underpinning and/or shoring of 901-933 Mission Street, and/or 959-965 Mission Street, and/or 447 Minna Street will be required. If underpinning or shoring is determined to be necessary, appropriate designs shall be prepared and implemented. All documents prepared in accordance with this Measure will be provided to the Preservation Technical Specialist assigned to the project and reviewed and approved by the appropriate permitting Department.

Mitigation Measure M-CP-2d: Prior to demolition and construction, a historic preservation architect shall establish a training program that emphasizes the importance of protecting historical resources for construction workers who are anticipated to work directly with potentially sensitive areas, such as workers involved in excavation or demolition. This program shall include information on recognizing historic fabric and materials, and directions on how to exercise care when working around and operating equipment near 901-933 Mission Street, 959-965 Mission Street, and 447-449 Minna Street, including storage of materials away from the historic buildings. The training will also include information on means to reduce vibrations from demolition and construction, and monitoring and reporting any potential problems that could affect historical resources. A provision for establishing this training program shall be incorporated into the project sponsor's contract(s) with its construction contractor(s), and the contract provisions related to this training program will be reviewed and approved by the Planning Department Preservation Technical Specialist.

Implementation of **Mitigation Measures M-CP-2a through M-CP-2d** will reduce project-related ground borne vibration impacts to historical resources to a less-than-significant level.

Impact CP-3: The Office Scheme or Residential Scheme would cause a substantial adverse change in the significance of a historical resource due to the demolition of the Camelline Building (430 Natoma Street), a historical resource under CEQA. (Significant and Unavoidable with Mitigation)

The Camelline Building at 430 Natoma Street would be demolished as part of the project to allow for construction of Building N-2. The Camelline Building is a historical resource under CEQA due to its eligibility for listing in the California Register under Criterion 3 (architecture) as a well-preserved example of the type of multi-purpose, loft-style light industrial building that characterized much of the SoMa area's rebuilding in the 1920s. Demolition of this building would result in a significant impact to a historical resource as it would result in the material impairment of the building's significance through the loss of historic fabric that conveys its significance and justifies its California Register eligibility.

Relocation of this building would potentially mitigate project impacts to a less-than-significant level if the orientation, setting, and general environment of the relocated building are comparable to those of its historic location and compatible with the resource's significance. The San Francisco Planning Department's online Property Information Map, along with Google Maps aerial and street views of the South of Market area were reviewed in an effort to identify unimproved lots that satisfy all of the following criteria:

- Single lot of similar size to the Camelline Building parcel 3725-042 (approximately 80' x 40');
- Lot outside the 5M project site;
- Lot with southeasterly orientation, like parcel 3725-042;
- Lot within 1/4-mile of parcel 3725-042;
- Lot that would allow for ongoing exposure of Camelline Building's west wall; and

- Lot with buildings in the immediate vicinity similar to the Camelline Building in age or size.

No suitable relocation sites within a ¼-mile of the project site that satisfy the above criteria were identified, and as a result, relocation as a possible mitigation to project demolition of the Camelline Building is not proposed.

Mitigation Measure M-CP-3: Prior to issuance of demolition or site permits related directly to the Camelline Building, the project applicant shall undertake Historic American Building Survey (HABS) documentation of the Camelline Building at 430 Natoma Street. The documentation shall be undertaken by a qualified professional who meets, at a minimum, the Secretary of the Interior's Professional Qualifications Standards for architectural history or historic architecture. Documentation shall be conducted in consultation with a Planning Department Preservation Technical Specialist and will be submitted for review and approval by the Department's Preservation Technical Specialist. The documentation shall consist of the following:

- **Measured Drawings:** Existing drawings of the Camelline Building, if available, shall be photographed with large-format negatives or photographically reproduced on Mylar. In the absence of existing drawings, full-measured drawings of the building's plan and primary (south and west) elevations shall be prepared.
- **HABS-Level Photographs:** Digital photographs of the interior and the exterior of the subject property. Large format negatives are not required. The scope of the digital photographs shall be reviewed by Planning Department Preservation Technical Specialist for concurrence. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography; and
- **Historical Overview:** In consultation with a Planning Department Preservation Technical Specialist, a qualified historian or architectural historian shall assemble historical background information relevant to the Camelline Building and its setting. Much, if not all,

of this information may be drawn from the *Historical Resource Evaluation Report (HRE)* for the project.

To ensure its public accessibility, the documentation shall be filed with the Planning Department, San Francisco History Center at the Main Library, the Northwest Information Center of the California Historical Resources Information System, and San Francisco Architectural Heritage.

- Interpretive Display: A permanent interpretative display shall be installed on the project site, within a lobby or other public area proximate to the footprint of the Camelline Building, and of sufficient size to present a photograph and text discussing the building.

Implementation of **Mitigation Measure M-CP-3** will reduce Impact CP-3, but not to a less-than-significant level. Therefore, the impact will be significant and unavoidable.

Impact CP-4: The Office Scheme or Residential Scheme would result in actions that could cause a substantial adverse change in the significance of the Chronicle Building (901-933 Mission Street), a historical resource under CEQA. These actions would (1) demolish and remove the two-story pedestrian connector between the Chronicle and Examiner Buildings (425-433 Minna Street), the non-historic, above-grade pedestrian bridge that is attached to the south wall of the Chronicle Building ; (2) develop open space on the rooftop of the Chronicle Building ; and (3) rehabilitate the Chronicle Building, which could endanger its historic status. (Less Than Significant with Mitigation).

Pedestrian Bridge Demolition: The project would remove the two-story pedestrian bridge at 425-433 Minna Street, a non-historic feature that connects the Examiner building with the south wall of the Chronicle Building at 901-933 Mission Street. This south wall, however, is a secondary elevation that was significantly altered at the time the Examiner Building and pedestrian bridge were constructed, and it does not include any of the Chronicle Building's historic character-defining features. As a result, the proposed removal of the pedestrian bridge would not physically damage historic features, and there would be a less-than-significant impact under CEQA.

As described above at Impact CP-2, however, care shall be exercised so that project groundborne vibrations resulting from demolition would not physically damage character-defining elements of the Chronicle Building or nearby historical resources.

Rooftop Conversion: Conversion of the Chronicle Building's rooftop to open space would incorporate several elements that would not result in a substantial adverse change to a historical resource. These elements are identified below.

- None of the proposed modifications of the rooftop into open space would interfere with the visual primacy of the Chronicle Building tower, a character-defining feature of this resource.
- The proposed mechanical enclosures would be sufficiently set back from the building parapet that they would not be visible from the opposite sidewalk on Fifth and Mission Streets.
- The proposed external elevator or stairway to access the rooftop would be located away from the building's primary facades along Mission and Fifth Street, and any overrun would be sufficiently set back from the building parapet that they would not be visible from the opposite sidewalk on Fifth and Mission Streets.

However, the greenhouse and one-story café/food kiosk proposed for the roof could result in a substantial adverse change to a historical resource. Mitigation for this potential impact is described below at M-CP-4b.

Rehabilitation: As part of the proposed project, the Chronicle Building would be rehabilitated through the following modifications: existing staircases or other circulation alterations to meet tenant needs; potential increase in the number and locations of pedestrian entrances and exits into the buildings, or potential additional windows or openings on Minna and/or Mary Streets (where none currently exist); interior structural or circulation alterations necessitated by demolition of the Examiner Building connector; and, upgrades to mechanical, electrical and plumbing systems. . Exterior

modifications include construction of a new façade where the connection to the existing Examiner Building would be removed.

The Chronicle Building is a historical resource under CEQA due to its eligibility for listing in the California Register under Criterion 1 (events) and, possibly, Criterion 2 (persons). The building was extensively modified through a series of alterations in the 1950s, 1960s, and early 1970s, and these alterations are not considered an integral element of the building's historic fabric and do not warrant protection. Accordingly, the project does not present any potential impacts associated with interior work regarding the Chronicle Building.⁵² Inappropriate exterior modification of the Chronicle Building has the potential to cause a substantial adverse change in the building's historical significance by materially altering in an adverse manner those character-defining features that convey its historical significance. Therefore, care and oversight need to occur to ensure that such work does not compromise the building's historical integrity.

Mitigation Measure M-CP-4a: Prior to issuance of site or construction permits related directly to the Chronicle Building, proposed plans for the rehabilitation of the Chronicle Building shall be submitted to the Planning Department Preservation Technical Specialist for review and approval. Any work that affects the character-defining features of the exterior of the Chronicle Building shall be conducted in accordance with the *Secretary of the Interior's Standards for Rehabilitation* and undertaken with the assistance of a historic preservation architect meeting the *Secretary of the Interior's Standards Professional Qualifications Standards*. The historic preservation architect will evaluate the proposed project to assess the treatment of the building's character-defining features and for conformance with the *Secretary of the Interior's Standards for Rehabilitation*. The historic preservation architect shall regularly evaluate the ongoing renovation to ensure it continues to satisfy the Standards and will submit status reports to the

⁵² Architectural Resources Group, *5M Development Project Area Historical Resource Evaluation Report (HRE)*, San Francisco, California, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Planning Department Preservation Technical Specialist according to a schedule agreed upon prior to commencement of the work.

Mitigation Measure M-CP-4b: The greenhouses and kiosk rooftop additions to the Chronicle Building would be setback so as to be minimally visible from the street and would not obscure, remove, or damage any character-defining features of the Chronicle Building. A Planning Department Preservation Technical Specialist shall conduct a design review of the rooftop additions to ensure that these are in conformance with the *Secretary of the Interior's Standards for Rehabilitation*.

Implementation of **Mitigation Measures M-CP-4a and M-CP-4b** will reduce project-related impacts to the Chronicle Building associated with its renovation to a less-than-significant level.

Impact CP-5: The Office Scheme or Residential Scheme could cause a substantial adverse change in the significance of a historical resource by rehabilitating the Dempster Printing Building at 447-449 Minna Street, which could endanger the building's historic status. (Less Than Significant with Mitigation)

The Dempster Printing Building would be rehabilitated by the project. The Dempster Printing Building is a historical resource under CEQA due to (1) its eligibility for listing in the California Register under Criterion 1 (events) and Criterion 3 (architecture); and (2) its listing in a local register of historical resources, the Downtown Area Plan (Article 11 of the San Francisco Planning Code), as a Category I building. Inappropriate rehabilitation has the potential to cause a substantial adverse change in the building's historical significance by materially altering in an adverse manner those character-defining features that convey its historical significance. Therefore, care and oversight need to occur to ensure that such work does not compromise the building's historical integrity.

Mitigation Measure M-CP-5: Prior to issuance of site or construction permits related directly to the Dempster Printing Building, proposed plans for the rehabilitation of the Dempster Printing

Building shall be submitted to the Planning Department Preservation Technical Specialist for review and approval pursuant to the requirements of Article 11. Any alteration of the 447-449 Minna Street exterior shall be conducted in accordance with the *Secretary of the Interior's Standards for Rehabilitation* and undertaken with the assistance of a historic preservation architect meeting the *Secretary of the Interior's Standards Professional Qualifications Standards*. The historic preservation architect shall regularly evaluate the ongoing renovation to ensure it continues to satisfy the Standards. The historic preservation architect shall submit status reports to a City Planning Department Preservation Technical Specialist according to a schedule agreed upon prior to commencement of the work.

Implementation of **Mitigation Measure M-CP-5** will reduce project-related impacts to the Dempster Printing Building associated with its rehabilitation to a less-than-significant level.

Impact CP-6: The Office Scheme or Residential Scheme would not cause a substantial adverse change in the significance of historical resources through use of building materials or wall treatments that are incompatible with adjacent historical resources, including the Chronicle Building, and 194-198 Fifth Street and 934 Howard Street, two Category B potential historical resources that are adjacent to the proposed project. (Less Than Significant)

Project design-related impacts to adjacent Category A historical resources, and Category B potential historical resources, are assessed in the HRE. The assessment considers the massing, size, and scale of proposed buildings H-1, M-2, N-1, and N-2 and their potential to result in a significant impact (material damage) by visually overwhelming nearby historical resources, including the Chronicle Building, Dempster Printing Building, The Old Mint, California Casket Company Building, Provident Loan Association Building, and Pickwick Hotel. The analysis considers whether the size and massing of the proposed buildings on parcels H-1, M-2, N-1, and N-2 could indirectly alter or in some way impair the attributes of the existing historic buildings that the historic integrity of those historic buildings could be substantially compromised or diminished.

The proposed project would incorporate several design elements that would address project compatibility to adjacent historical resources related to scale and massing. These design elements and principles include:

- Introducing uses into multiple new buildings that would be accommodated in buildings with footprints similar in size to, or smaller than, the footprint of the Chronicle Building.
- Setting apart the new construction from the historic buildings on site to prevent obscuring the physical extent of the historic buildings. In particular, there would be no above-ground direct connections between new-construction buildings and historical resources.
- Employing streetscaping, landscaping and open space elements, including the proposed relocation of Mary Street between Minna and Natoma Streets, as well as the proposed new plaza, to significantly separate the proposed construction from the historic Dempster Printing Building at 447-449 Minna Street.
- Distributing heights variably on the site to differentiate between existing buildings and proposed, old and new. The proposed height of the building immediately east of 447-449 Minna Street, Building N-2, is 174 feet, significantly lower than the height of Building N-1 to the east. Building N-2 thus eases the transition between 447-449 Minna Street and the 400-foot-high Building N-1 by “stepping down” the new development. The proposed location for Building H-1, along Fifth Street in the southwest corner of the project site, is away from the Chronicle Building, 447-449 Minna Street, and nearby Category A resources. This location is also directly across Fifth Street from the tallest building in the vicinity of the 5M Development project Area: the 340-foot-tall Intercontinental Hotel at 888 Howard Street.
- Avoiding physical alterations to existing or eligible to accommodate parking, by designing vehicle entrances to the project’s underground parking garage at buildings M-2, N-1, and H-1. Neither the Chronicle Building nor 447-449 Minna Street would be impacted by the proposed parking garage entrances.

The design features and siting of the proposed project would not adversely affect the setting of the Chronicle Building, Dempster Printing Building, The Old Mint, California Casket Company Building, Provident Loan Association Building, Pickwick Hotel, and adjacent Category B buildings at 194-198 Fifth Street and 934 Howard Street would such that the integrity of the resources would be substantially compromised.

Furthermore, although specific design details regarding the project's proposed building materials and wall treatments have not been finalized, the project Design for Development document identifies design standards and guidelines related to:

- Streetwall setbacks;
- Upper level setbacks;
- Streetwall variations;
- Ground floor articulation;
- Ground floor entries;
- Building façade articulation;
- Façade proportions;
- Preferred materiality;
- Preferred color palettes
- Tower completion strategies;
- Building ornamentation; and
- Existing structures.

Under the Fifth and Mission SUD, site and/or building permits for each new building within the Project would be subject to City review to confirm consistency with the standards and guidelines set forth in the D4D. As part of this review, Planning Department Preservation staff would review proposed building materials and wall treatments to ensure compatibility and consistency with the

above-listed standards and guidelines for new construction are reflected in specific building plans, including a review of those specific locations where new construction is proposed immediately adjacent to known or potential historical resources:

- the Fifth Street façades of Building N-1 and the Chronicle Building (901-933 Mission Street);
- the Mission Street façades of Building M-2 and the Chronicle Building (901-933 Mission Street);
- the Fifth Street façades of Building H-1 and 194- 198 Fifth Street; and
- the Howard Street façades of Building H-1, 194-198 Fifth Street, and 934 Howard Street.

Project construction that incorporates the above design approaches and is determined consistent with this review process would avoid adverse effects to adjacent historic architectural resources. Because project implementation would not materially damage off-site historic resources, impacts related to project compatibility with adjacent resources would be less than significant.

Archaeological Resource Impacts

Impact CP-7: The Office Scheme or Residential Scheme could cause a substantial adverse change in the significance of an archaeological resource because it would require excavation for building demolition, pavement removal, and construction of underground parking. (Less Than Significant with Mitigation)

Project ground-disturbing activities would require excavation to a maximum depth of approximately 45 feet below the existing ground surface to allow for removal of six existing buildings and asphalt, and construction of new building foundations and subterranean parking. The project site has low to high sensitivity for buried prehistoric and historical archaeological deposits, with the potential to encounter archaeological deposits varying according to depth of project impact and location. The geoarchaeological investigation conducted for the project identified a low potential for prehistoric archaeological deposits in the upper 25 feet of soil and fill underlying the project site. Below this

depth, however, there is a potential to identify significant prehistoric archaeological deposits on the surface of the Colma Formation that may qualify as “historical resources” or a “unique archaeological resource” pursuant to *CEQA Guidelines* Section 15064.5(c). Areas of moderate and high historical archaeological sensitivity (provided to the City under separate, confidential cover) were determined based on the potential for subsurface deposits and features to have survived to the present.

The proposed project, therefore, has the potential to cause a substantial adverse change to subsurface archaeological resources by adversely affecting the significance of these resources under Criterion 4 (Information Potential). The partial or total destruction of archaeological resources by the project would impair the ability of such resources to convey important scientific and historical information.

Mitigation Measure M-CP-7 will reduce project ground-disturbing impacts to a less-than- significant level.

Mitigation Measure M-CP-7: The project applicant shall retain the services of an archaeological consultant for the project from the pool of qualified archaeological consultants maintained by the San Francisco Planning Department. The archaeological consultant shall prepare plans, reports, and implement excavation programs, as described below. The archaeological consultant’s work shall be conducted in accordance with this measure at the direction of the San Francisco Planning Department. All plans and reports prepared by the archaeological consultant, as specified below, shall be submitted to the San Francisco Planning Department for review and comment and shall be considered draft reports subject to revision until final approval.

The archaeological consultant shall undertake the following tasks.

Archaeological Testing, Evaluation, and Data Recovery

The archaeological consultant shall prepare an Archaeological Testing Plan (ATP) that describes where and how portions of the project site will be examined before construction to

identify archaeological remains, if any. The purpose of the ATP is to propose a research context and methods to identify and evaluate whether any archaeological deposits that underlie the project site constitute archaeological resources or historical resources under CEQA. The ATP may adapt portions of the *Archaeological Resources Design and Testing Plan*⁵³ prepared for the project, as needed, including research design, field methods, and laboratory methods. The ATP shall be implemented after approval by the San Francisco Planning Department.

After implementation of the ATP, the archaeological consultant shall prepare an Archaeological Testing/Evaluation Report for submittal to the San Francisco Planning Department for review that presents findings from the testing program implemented as part of the ATP. The Archaeological Testing/Evaluation Report will present a systematic evaluation of any archaeological deposits identified in the project site and their eligibility for listing in the California Register of Historical Resources.

If the San Francisco Planning Department determines that, based on the results presented in the Archaeological Testing/Evaluation Report, a significant archaeological resource or historical resource is present and that the resource could be adversely affected by the project, an Archaeological Data Recovery Program shall be implemented. The results of the Archaeological Data Recovery Program shall be presented in a report of findings for review and approval by the San Francisco Planning Department. The final Archaeological Data Recovery Program report of findings shall be submitted to the Northwest Information Center at Sonoma State University, Rohnert Park, California.

Archaeological Monitoring

⁵³ Anthropological Studies Center, *Archaeological Research Design and Treatment Plan for the 5M Project, San Francisco, California*, June 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Depending upon results of the identification and evaluation of archaeological deposits conducted pursuant to the ATP, the San Francisco Planning Department may require archaeological monitoring during construction in specific areas defined as moderately or highly sensitive for archaeological resources. Archaeological monitors shall be empowered to stop construction activity at the location of a potential find to evaluate the discovery and make recommendations in consultation with the San Francisco Planning Department, as appropriate.

Implementation of **Mitigation Measure M-CP-7** will reduce potential impacts to archaeological resources to a less-than-significant level because it will require evaluation and protection of any identified archaeological resources, and ongoing monitoring of archaeological resources, if deemed warranted by the San Francisco Planning Department.

Paleontological Resource Impacts

Impact CP-8: The Office Scheme or Residential Scheme could indirectly destroy a unique paleontological resource due to excavation activities. (Less Than Significant with Mitigation)

Project ground-disturbing activities would require excavation to a maximum depth of approximately 45 feet below the existing ground surface to allow for construction of subterranean parking. The Colma Formation, which underlines the project site at an approximate depth of 30+ feet, is known to contain significant vertebrate fossils of extinct species. Disturbance of these fossils could impair their ability to yield important scientific information, a potentially significant impact.

Mitigation Measure M-CP-8: The project applicant shall retain the services of a qualified paleontological consultant to design and implement a Paleontological Resources Monitoring and Mitigation Program (PRMMP). The PRMMP shall include a description of when and where construction monitoring will be required; emergency discovery procedures; sampling and data recovery procedures; procedure for the preparation, identification, analysis, and curation of fossil specimens and data recovered; preconstruction coordination procedures; and

procedures for reporting the results of the monitoring program. The PRMMP shall be consistent with the Society for Vertebrate Paleontology Standard Guidelines for the mitigation of construction-related adverse impacts to paleontological resources and the requirements of the designated repository for any fossils collected.

During construction, earth-moving activities shall be monitored by a qualified paleontological consultant having expertise in California paleontology in the areas where these activities have the potential to disturb previously undisturbed native sediment or sedimentary rocks. Paleontological monitoring will not be required for areas that are of low sensitivity for containing fossils, i.e., within fill and Holocene-age deposits.

The paleontological consultant's work shall be conducted in accordance with this measure and at the direction of the San Francisco Planning Department. The consultant shall submit plans and reports prepared for the project to the San Francisco Planning Department for review and comment, and shall be considered draft reports subject to revision until final approval by the San Francisco Planning Department.

Implementation of **Mitigation Measure M-CP-8** will reduce project-related impacts to paleontological resources to a less-than-significant level.

Impacts to Human Remains

Impact CP-9: The Office Scheme or Residential Scheme could disturb human remains, due to excavation activities. (Less Than Significant with Mitigation)

As noted in the discussion under Impact CP-7, project ground-disturbing activities could encounter significant prehistoric archaeological deposits on the surface of the Colma Formation, which is estimated to underlie the project at approximately 30 feet below the existing ground surface. Prehistoric archaeological deposits, particularly residential sites and shell mounds, may contain

human remains interred outside of formal cemeteries. Disturbance of such remains would result in a significant impact.

Mitigation Measure M-CP-9: The treatment of human remains and of associated or unassociated funerary objects discovered during any soil disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Public Resources Code Section 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (*CEQA Guidelines* Section 15064.5(d)). The agreement shall take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Implementation of **Mitigation Measure M-CP-9** will reduce project-related impacts to human remains to a less-than-significant level.

Cumulative Impacts. This section discusses the cumulative impacts to cultural resources that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-CP-1: The Office Scheme or Residential Scheme would demolish the Camelline Building at 430 Natoma Street, a historical resource under CEQA. Demolition of this resource, in combination with demolition or removal of historical resources by past, present, and reasonably foreseeable future projects, would make a cumulatively considerable contribution to a significant impact. (Significant and Unavoidable with Mitigation)

The proposed project would have a significant effect on the environment if, in combination with other past, current, or reasonably feasibly foreseeable projects within the vicinity, the project contributes to a cumulative impact on historical resources. For purposes of this analysis a “list approach” was used to identify reasonably foreseeable projects within a 0.5-mile radius of the project site. A cumulatively significant impact would occur, for example, if other closely related projects would affect historical resources identified in the project site, or other historical buildings associated with the significant historical context of post-quake rebuilding of the SoMa Area from approximately 1906 to 1929. As noted in the South of Market Historic Context Statement, this post-quake rebuilding period is the most important historical factor in the historical architecture of the area.

As described above, the proposed project would demolish the Camelline Building, which is eligible for listing in the California Register of Historical Resources under Criterion 3 (Architecture) as a well-preserved example of the type of multi-purpose, loft-style light industrial building that characterized the SoMa area’s rebuilding in the 1920s. There are past and reasonably foreseeable projects proposed in the vicinity that have, or would result in, demolition of other historical buildings (i.e., constructed between 1906 and 1929) that are significant, either individually or as contributors to a historic district. Projects at 255 Seventh Street (Case No. 2004.0588E), 725 Harrison Street (Case No. 2005.0759E), and 200-214 Sixth Street (Case No. 2011.0119E), for example, have or would eliminate important examples of SoMa buildings associated with the Sixth Street Lodginghouse District and Western SoMa Light Industrial and Residential Historic District. Demolition of these historical resources is a significant impact that cannot be mitigated to a less-than-significant level. Therefore, the proposed project, in association with past, present, and reasonably foreseeable projects in the vicinity, would contribute to a cumulatively considerable impact to historical resources by eliminating important examples of buildings built between 1906-1929 in SoMa. While **Mitigation Measures M-CP-3a** and **M-CP-3b** would allow for the documentation and partial salvage of the Camelline Building, the significant contribution to the cumulative loss of historical resources would remain unavoidable.

Impact C-CP-2: The Office Scheme or Residential Scheme could disturb archaeological resources, paleontological resources, and human remains. Disturbance of these resources and remains, in combination with past, present, and reasonably foreseeable future projects, would make a cumulatively considerable contribution to a significant impact. (Less Than Significant with Mitigation)

The potential disturbance of subsurface cultural resources that may underlie the project site, including archaeological resources, paleontological resources, and human remains, could have a cumulatively significant impact when considered with other past, present, or reasonably foreseeable projects in San Francisco and the Bay Area. As described above, implementation of appropriate identification, evaluation, recovery, and monitoring of these resources would mitigate impacts to these resources by realizing their information potential and significance under Criterion 4 of the California Register of Historical Resources. The recovery, documentation, and interpretation of this information would enhance our knowledge of prehistory or history and would be made available for future archaeological research, contributing to the scientific community and general public's understanding and interpretation of the past. Implementation of **Mitigation Measures M-CP-7, M-CP-8, and M-CP-9** would mitigate this impact to a less-than-significant level.

D. TRANSPORTATION AND CIRCULATION

This section analyzes the potential project-level and cumulative impacts on transportation and circulation resulting from implementation of the 5M Project. Transportation-related issues of concern that are addressed include traffic on local and regional roadways, transit, bicycles, pedestrians, parking, loading, and construction-related activities. This section provides an overview of existing transportation conditions, a description of applicable transportation regulations and policies, methodologies and assumptions used in the impact analysis, and impact assessment and mitigation measures. This section is based on information and analysis contained in the 5M Project Transportation Impact Study (TIS).¹

Environmental Setting

This section provides a description of the existing transportation conditions in the vicinity of the project site. Included in this section are descriptions of existing roadway, transit, pedestrian, bicycle, and parking conditions. Please see **Figure II-1** from the Chapter II, Project Description, which presents the roadway network in the vicinity of the project.

Roadway Network.

Interstate 80 (I-80) provides the primary regional access to the project area. The San Francisco-Oakland Bay Bridge is part of I-80 and connects San Francisco with the East Bay and points east. I-80 runs to the south of the project site. Access to the project site from I-80 westbound is via the Fremont Street off-ramp or the Harrison/Fifth Street off-ramp, and access to I-80 westbound is via the on-ramp at the intersection of Harrison/Fourth. Access from I-80 eastbound is via the Bryant/Fourth off-ramp, and access to I-80 eastbound is via the on-ramps at the intersections of Harrison/Essex, Harrison/First, Bryant/Sterling, and Bryant/Fifth.

¹ LCW Consulting, *5M Project Transportation Impact Study*, October 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

U.S. Highway 101 (U.S. 101) provides access to both the north and south of the study area. I-80 joins U.S. 101 to the southwest of the project site and provides access to the Peninsula and South Bay. Nearby access to U.S. 101 to the south is provided from I-80, including the on- and off-ramps at Fourth and Fifth Streets. In addition, U.S. 101 connects San Francisco and the North Bay via the Golden Gate Bridge. Within the northern part of San Francisco, U.S. 101 operates on surface streets (i.e., Van Ness Avenue and Lombard Street).

Interstate 280 (I-280) provides regional access from the South of Market area of downtown San Francisco to southwest San Francisco and the South Bay/Peninsula. I-280 and U.S. 101 have an interchange to the south of downtown San Francisco. Nearby access points to I-280 are located at Sixth Street at Brannan Street and at King Street (near Fifth Street).

Market Street is a two-way arterial that runs between Steuart Street and Portola Drive. Market Street runs in an east-west direction. In the vicinity of the project site, Market Street has two lanes in each direction, and on-street parking is prohibited, although there are loading zones on most blocks. Numerous bus lines and the F Market & Wharves historic streetcar line run on Market Street between Steuart and Castro streets. In the San Francisco General Plan, Market Street is designated as a Transit Conflict Street in the CMP Network, a Transit Preferential Street (transit-oriented), a Citywide Pedestrian Network Street and a Neighborhood Commercial Street. In addition, Market Street between Castro and Steuart streets is part of Bicycle Route 50.

Mission Street is a four-lane arterial that runs in an east-west direction between The Embarcadero and Van Ness Avenue, and continues in a north-south direction west of Van Ness Avenue. One of Mission Street's two lanes in the eastbound and westbound directions, between Eleventh and Beale Streets, is dedicated as a right-turn/bus-only lane on weekdays between 7:00 a.m. and 6:00 p.m. On-street, metered parking is generally provided along both curbs, but is prohibited during the AM and PM peak periods. The General Plan designates Mission Street as a Transit Conflict Street in the CMP Network, as a Transit Preferential Street (primary transit-oriented) within the downtown core, a Neighborhood Pedestrian Street (Neighborhood Commercial), and as a Citywide Pedestrian Network Street. The Mission Street sidewalk adjacent to the project site is 15 feet wide, which meets the Better

Streets Plan minimum width of 12 feet, and recommended width of 15 feet. The Mission Street sidewalk widths on the south side of Mission Street between Third and Fifth streets are 10 feet wide and are less than the minimum width of 12 feet required by the Better Streets Plan.

Minna Street is an east-west alley that runs discontinuously between 15th Street and First Street. West of Fifth Street, Minna Street is a one-way westbound street. Minna Street generally has one travel lane and on-street parking on one side of the street (west of Fifth Street, parking is permitted on the north side of the street). Minna Street has a 35-foot wide right-of-way, which includes a 21-foot wide travel lane, a 9-foot wide sidewalk on the south side of the street and an 11-foot wide sidewalk on the north side of the street. The Minna Street sidewalks adjacent to the project site meet the Better Streets Plan minimum sidewalk widths for alleys of 6 feet and the recommended sidewalk width of 9 feet.

Natoma Street is an east-west alley that runs discontinuously between 15th Street and First Street. West of Fifth Street, Natoma Street is a one-way eastbound street. Natoma Street generally has one travel lane and on-street parking on one side of the street (west of Fifth Street, parking is permitted on the south side of the street). Natoma Street has a 35-foot wide right-of-way, which includes a 21-foot wide travel lane, and 6 to 7-foot wide sidewalks. The Natoma Street sidewalks adjacent to the project site meet the Better Streets Plan minimum sidewalk width of 6 feet, but not the recommended sidewalk width of 9 feet.

Mary Street is a north-south alley that runs one-way northbound between Howard and Mission streets. Mary Street has one travel lane, and on-street parking is not permitted on either side of the street. Mary Street has a 25-foot wide right-of-way, which includes a 15-foot wide travel lane, and 5-foot wide sidewalks on both sides of the street. The Mary Street sidewalks do not meet the Better Streets Plan recommended sidewalk width of 9 feet, nor the minimum sidewalk width of 6 feet.

Mint Street is a north-south alley that runs two-way between Jessie Street and Fifth Street, and terminates at Mint Plaza, a pedestrian plaza that runs between Mint and Fifth streets north of the Old Mint. Mint Street has a 10-foot wide sidewalk on the west side of the street, and no sidewalk on the east side of the street adjacent to the Old Mint building. The Mint Street west sidewalk meets the Better Streets Plan minimum sidewalk width of 6 feet and recommended sidewalk width of 9 feet.

While there is no east sidewalk, the legislated sidewalk width of 11 feet would meet the Better Streets Plan minimum and recommended requirements.

Howard Street runs between The Embarcadero and South Van Ness Avenue. It is a two-way arterial with two travel lanes in each direction between The Embarcadero and Fremont Street, and a one-way arterial west of Fremont Street with three to four travel lanes in the westbound direction. The San Francisco General Plan identifies Howard Street as a Major Arterial in the CMP Network, as a Metropolitan Transportation System (MTS) street and a Transit Preferential Street (transit-important) between Main and Beale Streets. Howard Street is part of Bicycle Route 30, and a bicycle lane is provided on the north side of Howard Street between Fremont and Eleventh streets. The Howard Street sidewalk adjacent to the project site is 11 feet 6 inches wide, which does not meet the Better Streets Plan minimum sidewalk width of 12 feet by 6 inches, and does not meet the recommended width of 15 feet.

Folsom Street runs between The Embarcadero and Ripley Street (south of Cesar Chavez Street). Folsom Street is a four-lane eastbound one-way arterial between Eleventh and Main Streets, and is a two-way arterial with three eastbound lanes and one westbound lane between Main Street and The Embarcadero. The San Francisco General Plan identifies Folsom Street as a Major Arterial in the CMP Network and as an MTS Street. Folsom Street is part of Bicycle Route 30, and has a bicycle lane on the south side of the street.

Harrison Street runs between The Embarcadero and Norwich Street (south of Cesar Chavez Street). Harrison Street operates two-ways between The Embarcadero and Third Street, one-way westbound between Third and Tenth Streets, and two-way between Tenth and Norwich Streets. Between Beale and First Streets, Harrison Street has one eastbound and three westbound travel lanes, and curb parking on both sides of the street. The San Francisco General Plan identifies Harrison Street as a Major Arterial in the CMP Network, an MTS Street, a Transit Preferential Street (transit-important), and a Neighborhood Commercial Street.

Bryant Street runs between The Embarcadero and Precita Avenue (south of Cesar Chavez Street). Between Second Street and Eleventh Street, Bryant Street is a one-way eastbound arterial with four travel lanes. East of Second Street, Bryant Street operates one-way eastbound to the Sterling Street on-ramp to I-80, and operates both eastbound and westbound (one lane in each direction) between Sterling Street and The Embarcadero. Bryant Street provides the primary access to and from I-80 eastbound, including on-ramps at Fifth Street and Sterling Street, and off-ramps at Seventh and at Fourth streets. The San Francisco General Plan identifies Bryant Street as a Major Arterial in the CMP Network, an MTS Street, a Transit Preferential Street (transit-important), and a Neighborhood Commercial Street.

Third Street is a north-south arterial between Bayshore Boulevard and Market Street. North of Market Street, Third Street connects with Kearny Street and Geary Street. North of Townsend Street, Third Street is a one-way northbound roadway. In the vicinity of the project site, Third Street has five travel lanes during peak periods, and the east curb lane is reserved for transit vehicles. On-street parking is generally provided along both sides of the street, but is prohibited during the morning and evening peak periods (7:00 to 9:00 a.m. and 3:00 to 6:00 p.m.). In the San Francisco General Plan, Third Street is designated as a Major Arterial in the CMP Network, a MTS street, a Transit Preferential Street (transit important), a Citywide Pedestrian Network Street and a Neighborhood Commercial Street.

Fourth Street is a north-south roadway between Market Street and Townsend Street. North of Market Street, Fourth Street connects with Stockton and Ellis Streets. Between Market and Townsend Streets, Fourth Street is a one-way southbound roadway with four travel lanes during peak periods. Fourth Street generally has on-street metered parking and sidewalks on both sides of the street. In the vicinity of the project site, between Howard and Folsom Streets, on-street parking on Fourth Street is prohibited at all times on the east side of the street, and between 3:00 and 7:00 p.m. on the west side of the street (adjacent to the project site). In the San Francisco General Plan, Fourth Street is designated as a Major Arterial in the CMP Network, an MTS Street, a Transit Preferential Street (transit important) and a Neighborhood Commercial Street.

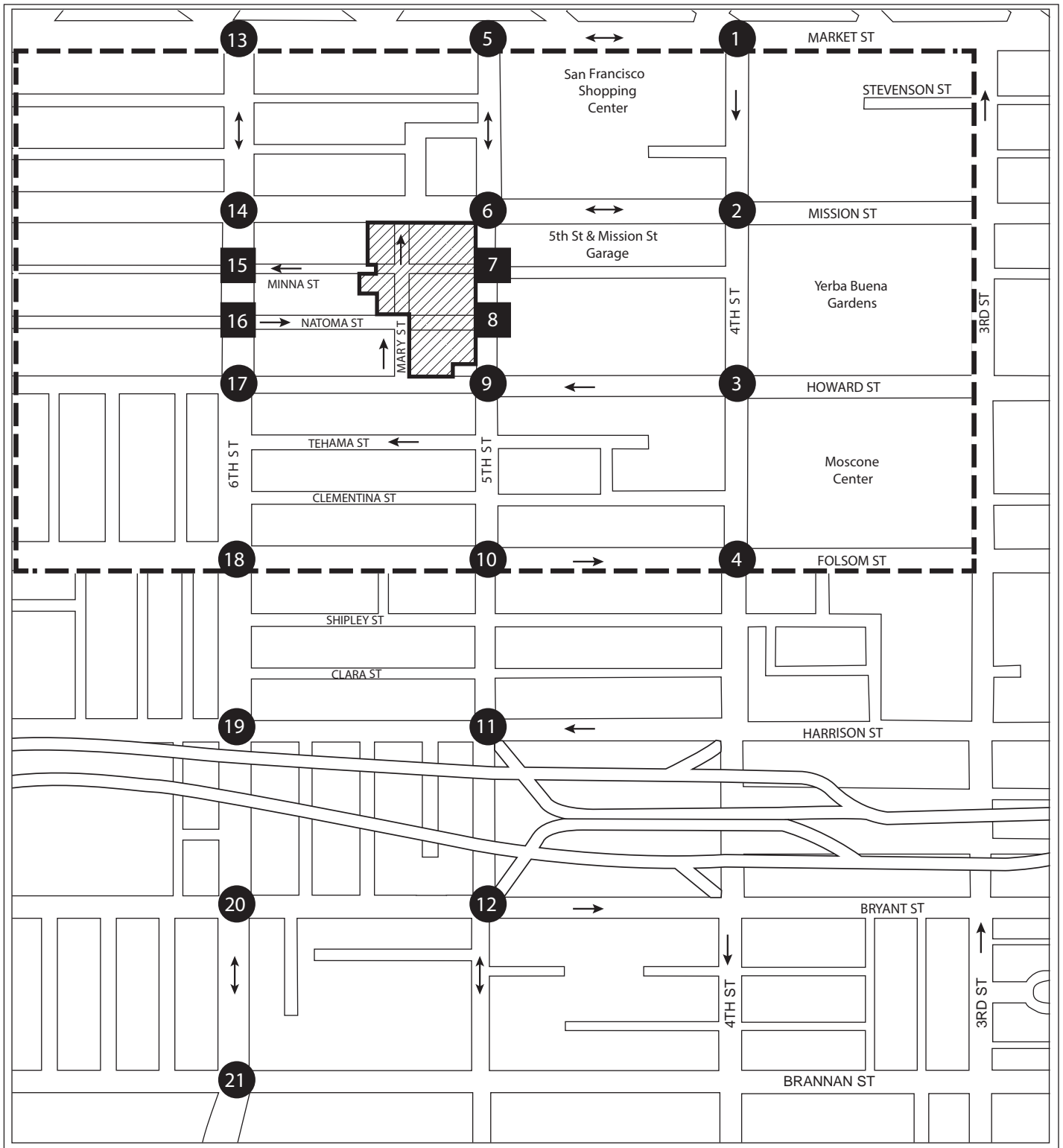
Fifth Street is a north-south roadway between Market Street and Townsend Street. North of Market Street, Fifth Street becomes Cyril Magnin Street. Fifth Street is a two-way street, with two travel lanes in each direction. In the vicinity of the project site, Fifth Street has on-street metered parking and sidewalks on both sides of the street. In the San Francisco General Plan, Fifth Street is designated as a Major Arterial in the CMP Network, an MTS Street, and a Transit Preferential Street (transit important). Fifth Street is part of Bicycle Route 19. The Fifth Street sidewalks do not meet the Better Streets Plan recommended sidewalk width of 15 feet, nor the minimum sidewalk width of 12 feet.

Sixth Street is a two-way roadway that extends from Market Street to the I-280 on- and off-ramps at Brannan Street. It contains two lanes in each direction, plus parking on both sides of the street, subject to tow-away regulations. On-street parking on the east side of Sixth Street between Brannan and Market Streets and on the west side between Howard and Brannan Streets is subject to tow-away between 7:00 and 9:00 a.m. as well as between 3:00 and 7:00 p.m. Sixth Street is designated as a Major Arterial in the General Plan. It is part of the CMP Network and an MTS street.

Figure IV.D-1 presents the analysis intersections and transit and parking study area.

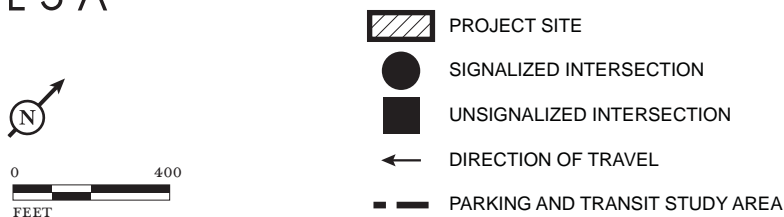
Intersection Operating Conditions. Existing intersection operating conditions were evaluated for the weekday PM peak hour (generally between 5:00 and 6:00 p.m.) of the PM peak period (4:00 to 6:00 p.m.). Intersection turning movement counts were conducted on Tuesday through Thursday, September 11 through 13, 2012, and Wednesday and Thursday, November 28 and 29, 2012. These turning movement volumes were adjusted to reflect the shift in traffic due to the travel lane closures and detours on Stockton Street associated with the Central Subway Project construction activities (as part of the current phase of the Central Subway Project, in addition to travel lane closures, vehicular traffic on Stockton Street is restricted to transit and taxis only, which results in a shift of traffic to Fifth Street and other South of Market north/south streets). Adjustments to the PM peak hour volumes were based on counts at the study intersections conducted in 2008 through 2010 for nearby projects.²

² Based on counts conducted for the 706 Mission Street Project, the Western SoMa Community Plan, and the Eastern Neighborhoods Transportation Implementation Planning Study (EN TRIPS).



LSA

FIGURE IV.D-1



SOURCE: LCW CONSULTING, 2014.

5M Project EIR
Study Area and Analysis Locations

Seventeen of the 21 study intersections are signalized; and the four intersections of Minna and Natoma Streets with Fifth and Sixth Streets are unsignalized. The operating characteristics of intersections are described by the concept of Level of Service (LOS). LOS is a qualitative description of an intersection's performance based on the average delay per vehicle. Intersection levels of service range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. LOS A through D are considered excellent to satisfactory service levels, LOS E is undesirable, and LOS F conditions are unacceptable.

Table IV.D-1: Intersection Level of Service

Intersection	Delay ^a	LOS ^b
1. Fourth/Market/Stockton	56.1	E
2. Fourth/Mission	28.0	C
3. Fourth/Howard	52.5	D
4. Fourth/Folsom	> 80 (1.09)	F
5. Fifth/Market	55.9	E
6. Fifth/Mission	15.1	B
7. Fifth/Minna	2.5 (sb)	A
8. Fifth/Natoma	38.2 (eb)	E
9. Fifth/Howard	15.1	B
10. Fifth/Folsom	27.6	B
11. Fifth/Harrison	58.7	E
12. Fifth/Bryant	> 80 (1.25)	F
13. Sixth/Market	44.6	D
14. Sixth/Mission	32.3	C
15. Sixth/Minna	> 50 (wb)	F
16. Sixth/Natoma	> 50 (eb)	F
17. Sixth/Howard	35.5	D
18. Sixth/Folsom	43.3	D
19. Sixth/Harrison	31.6	C
20. Sixth/Bryant	> 80 (1.43)	F
21. Sixth/Brannan	74.4	E

^a Delay presented in seconds per vehicle.

^b Intersections operating at LOS E or LOS F highlighted in **bold**.

Source: Source: *5M Project Transportation Impact Study*, October 2014.

Table IV.D-1 presents the results of the intersection LOS analysis for the existing weekday PM peak hour conditions. During the weekday PM peak hour, nine of the 17 signalized study intersections currently operate at LOS E or LOS F conditions. The signalized intersections of Fourth/Market/Stockton, Fourth/Folsom, Fifth/Market, Fifth/Harrison, Fifth/Bryant, Sixth/Bryant and Sixth/Brannan Streets operate at LOS E or LOS F conditions during the PM peak hour. In addition, the eastbound approaches at the unsignalized intersections of Fifth/Natoma and Sixth/Natoma Streets operate at LOS F conditions; however, due to the low volumes on Natoma Street, traffic signal warrants are not

met, and a signal is not warranted.³ At the unsignalized intersection of Sixth/Minna Streets, the westbound approach currently operates at LOS F conditions, and the intersections meets traffic signal warrants. SFMTA plans to signalize this intersection; the contract for signal construction is currently out for bid, and SFMTA plans to activate the signal by the end of 2014.⁴

The poor PM peak hour operating conditions are due to the high traffic volumes on streets destined to and the I-80 and I-280 ramps, and the preferential signal timing for transit buses and streetcars at the eastbound and westbound Market Street approaches at the study intersection of Fourth/Market/Stockton. For example, on northbound Fifth Street between Mission and Market streets is often subject to queued conditions during the PM peak period (the intersection of Fifth/Market operates at LOS E conditions).

Transit Network.

Local and Regional Transit Providers. The project site is well served by public transit, with both local and regional service provided nearby. Local service is provided by the San Francisco Municipal Railway (Muni) bus and light rail lines, which can be used to access regional transit operators. Service to and from the East Bay is provided by BART, AC Transit and the Water Emergency Transportation Authority (WETA) ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries, and WETA ferries; service to and from the Peninsula and South Bay is provided by Caltrain, SamTrans, BART, and WETA ferries. **Figure IV.D-2** presents the transit routes and local bus stop locations in the vicinity of the project site.

³ A signal warrant is a condition that an intersection must meet to justify a signal installation. There are different warrants, which examine factors such as the volume of vehicles, bicyclists, and pedestrians, the signal system, collision statistics, as well as the geometric/physical configuration of the intersection. Even if a signal warrant is not met under the strictest interpretation, the determination to signalize an intersection could be made based upon the city traffic engineer's professional judgment of intersection operations.

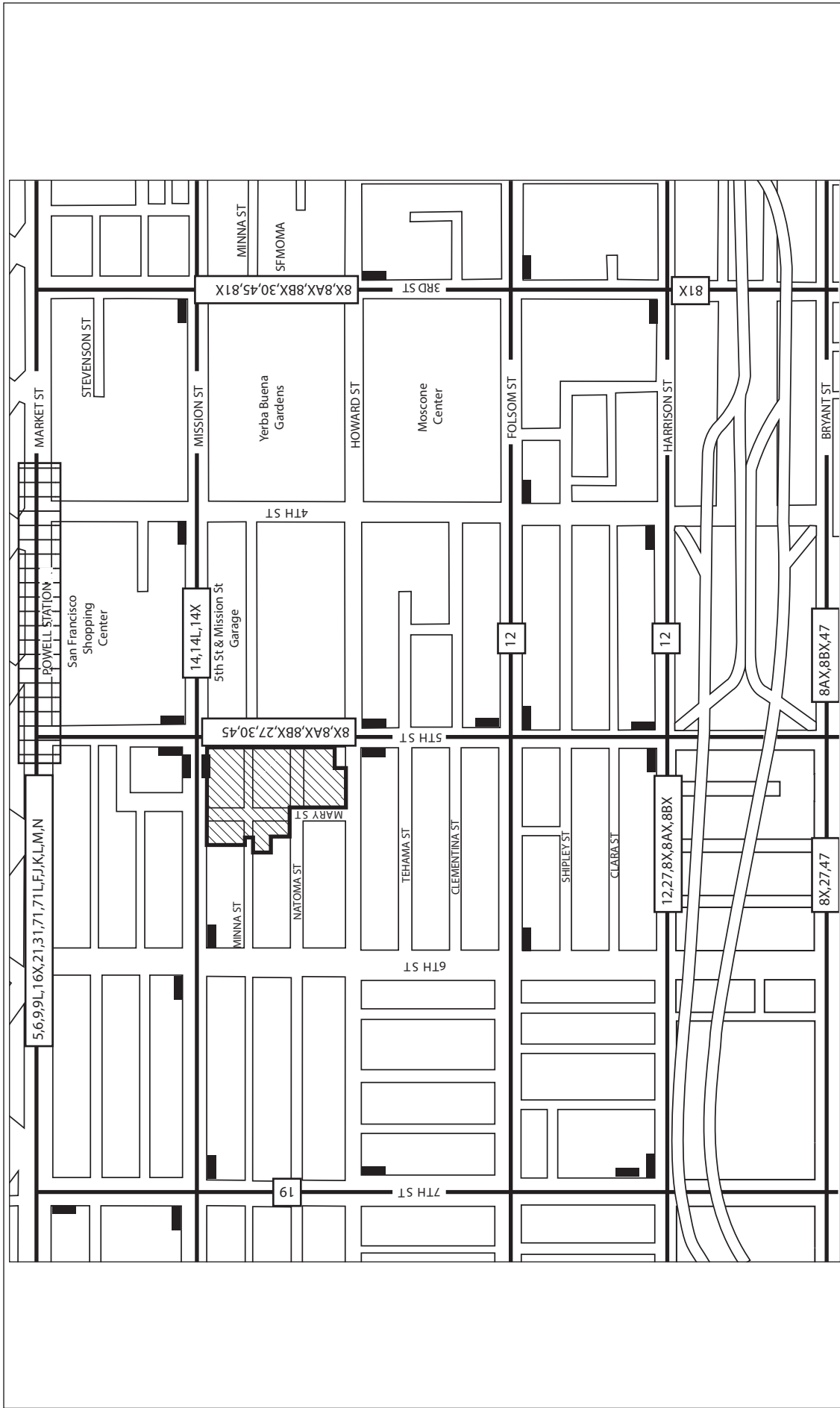
⁴ Eddie Tsui, SFMTA, email correspondence with Luba Wyznyckyj, LCW Consulting. March 6, 2013 and January 8, 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Muni provides transit service within the City and County of San Francisco, including bus (both diesel and electric trolley), light rail (Muni Metro), cable car and electric streetcar lines. Muni operates a number of bus and rail lines in the vicinity of the proposed project. **Table IV.D-2** presents the Muni routes serving the transit study area, and their service frequencies during the weekday morning, midday and afternoon peak periods. In addition to these bus routes, Muni Metro and the Muni historic streetcar run on Market Street, about 0.2 mile north of the project site. Construction of the Central Subway Project is currently underway, and will extend the T Third light rail line northward from its current terminus at Fourth and King Streets to a surface station south of Bryant Street and go underground at a portal under U.S. 101. From there it will continue north to stations at Moscone Center (i.e., on the west side of Fourth Street between Folsom and Clementina Streets), Union Square—where it will provide passenger connections to the Powell Street Station and BART—and in Chinatown, where the line will terminate at Stockton and Clay Streets. Construction of the Central Subway is scheduled to be completed in 2017, and revenue service is scheduled for 2019.

There is one bus stop adjacent to the project site, on Mission Street eastbound (about 120 feet in length) that serves the 14 Mission, 14L Mission Limited, and 14X Mission Express. Other bus stops in the vicinity of the project site include: westbound Mission Street west of Fifth Street, and northbound (farside) and southbound (nearside) Fifth Street north of Mission Street.⁵

In January 2012, SFMTA temporarily rerouted southbound 30 Stockton and 45 Union-Stockton from Fourth to Fifth Streets to accommodate the Central Subway construction (the northbound route has not been revised). In addition, a temporary supplemental 8 Shuttle service has been initiated, which in the vicinity of the project site runs south on Fourth Street to Folsom Street (because this route is temporary, it is not included in the subsequent transit analysis). Routes 8X/8AX/8BX have not been affected, but will be rerouted at a later date to accommodate additional construction activity.

⁵ A nearside bus stop is located at the first or nearest side of the intersection encountered when passing through. A farside bus stop is located at the second or furthest side of the intersection encountered when passing through.



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FIGURE IV.D-2

 PROJECT SITE
  MUNI ROUTES
  BUS STOP



Table IV.D-2: Nearby Weekday Muni Service

Route	Service Frequency (min.)		
	AM Peak Hour 7:00 a.m. to 9:00 a.m.	Midday Peak Hour 9:00 a.m. to 4:00 p.m.	PM Peak Hour 4:00 p.m. to 6:00 p.m.
F Market & Wharves	6	5	5
J Church	9	10	9
K Ingleside	10	10	9
L Taraval	10	7	12
M Ocean View	9	10	9
N Judah	7	10	7
5 Fulton	4	8	9
6 Parnassus	10	12	10
8X Bayshore Express	8	9	8
8AX Bayshore Express ^a	8	–	8
8BX Bayshore Express ^a	8	–	8
9 San Bruno	12	12	12
9L San Bruno Limited	12	12	12
10 Townsend	20	20	20
12 Folsom---Pacific	20	20	20
14 Mission	9	9	8
14L Mission Limited	9	9	8
14X Mission Express ^a	8	–	8
16X Noriega Express ^a	9	–	9
19 Polk	15	15	15
21 Hayes	9	12	10
27 Bryant	15	15	15
30 Stockton	8	6	6
31 Balboa	12	15	15
45 Union – Stockton	8	12	12
71/71L Haight Noriega/Ltd	10	12	10

^a 8AX Bayshore Express, 8BX Bayshore Express, 14X Mission Express, and 16X Noriega Express operate inbound towards downtown during the AM peak period, and outbound from downtown during the PM peak period.

Source: 5M Project Transportation Impact Study, October 2014.

Muni’s Transit Effectiveness Project: The Transit Effectiveness Project (TEP) presents a thorough review of San Francisco’s public transit system, initiated by SFMTA in collaboration with the City Controller’s Office. The TEP is aimed at improving reliability, reducing travel times, providing more frequent service and updating Muni bus routes and rail lines to better match current travel patterns..

The SFMTA approved the TEP on March 28, 2014. The TEP components will be implemented based on funding and resource availability, and it is anticipated that the first group of service improvements would be implemented in Fiscal Year 2015 and the second group in a subsequent phase.⁶

East Bay: Transit service to and from the East Bay is provided by BART, AC Transit, and WETA. BART operates regional rail transit service between the East Bay (from Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont) and San Francisco, and between San Mateo County (Millbrae and San Francisco Airport) and San Francisco. The nearest BART station to the project site is the Powell Station, about 0.2 mile north of the project site. AC Transit is the primary bus operator for the East Bay, including Alameda and western Contra Costa Counties. AC Transit operates 37 routes between the East Bay and San Francisco, all of which terminate at the (temporary) Transbay Terminal, about 1 mile east of the project site. WETA ferries provide service to between San Francisco and Alameda and between San Francisco and Oakland from the Ferry Building, at The Embarcadero and Market Street, approximately 1.2 miles to the east.

South Bay: Transit service to and from the South Bay is provided by BART, SamTrans, Caltrain and WETA. SamTrans provides bus service between San Mateo County and San Francisco, including 14 bus lines that serve San Francisco (12 routes serve the downtown area). In general, SamTrans service to downtown San Francisco operates along South Van Ness Avenue, Potrero Avenue, and Mission Street to the Transbay Terminal. SamTrans cannot pick up northbound passengers at San Francisco stops. Similarly, passengers boarding in San Francisco (and destined to San Mateo) may not disembark in San Francisco. SamTrans routes stop at the eastbound and westbound bus stops on Mission Street at Fifth Street. WETA ferries provide service between South San Francisco and the Ferry Building, which is located approximately 1.2 miles to the east.

⁶ San Francisco Planning Department, *Transit Effectiveness Project Draft EIR*, July 10, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Caltrain provides commuter heavy-rail passenger service between Santa Clara County and San Francisco. Caltrain currently operates 38 trains each weekday, with a combination of express and local service. The San Francisco Caltrain terminal is located at Fourth and Townsend streets, about 0.8 miles southeast of the project site.

North Bay: Transit service to and from the North Bay is provided by Golden Gate Transit buses and ferries, and WETA ferries. Between the North Bay (Marin and Sonoma Counties) and San Francisco, Golden Gate Transit operates 22 commute bus routes, nine basic bus routes and 16 ferry feeder bus routes, most of which serve the Van Ness Avenue corridor or the Financial District. In the vicinity of the project site, Golden Gate Transit bus service to downtown San Francisco operates along Mission, Howard and Folsom streets. Golden Gate Transit routes stop at the westbound bus stop on Mission Street at Fifth Street. Golden Gate Transit also operates ferry service between the North Bay and San Francisco. During the morning and evening peak periods, ferries run between Larkspur and San Francisco and between Sausalito and San Francisco. WETA ferries provide service between Vallejo and San Francisco. The Golden Gate Transit and WETA San Francisco terminal is located at the Ferry Building, approximately 1.2 miles to the east.

The availability of local Muni and regional service capacity was analyzed in terms of a series of screenlines. The concept of screenlines is used to describe the magnitude of travel to or from the greater downtown area, and to compare estimated transit volumes to available capacities. Screenlines are hypothetical lines that would be crossed by persons traveling between downtown and its vicinity and other parts of San Francisco and the region. Most Muni service into and out of downtown is grouped into one of four screenlines (Northeast, Northwest, Southeast and Southwest) that transit vehicles cross when traveling between downtown and a quadrant of the City. In addition, three regional screenlines have been established around San Francisco to analyze potential impacts of projects on the regional transit carriers (AC Transit, BART, Caltrain, Golden Gate Transit and SamTrans).

Existing capacity utilization of the four Muni screenlines is below Muni's capacity utilization standard of 85 percent, and the Muni bus routes and light rail lines can accommodate additional passengers. All of the regional transit operators have a one-hour load factor standard of 100 percent, which would indicate that all seats are full. During the weekday PM peak hour, all regional transit providers operate at less than their load factor standards, which indicates that seats are generally available.

Pedestrian Conditions. A qualitative evaluation of existing pedestrian conditions in the vicinity of the project site was conducted during field visits to the site during the weekday midday and PM peak periods.

Sidewalks are provided adjacent and within the project site, and adjacent intersections are signalized with pedestrian countdown signals and crosswalks (pedestrian countdown signals are also currently provided at all of the study intersections). Adjacent to the project site, sidewalk curb ramps are provided at intersections along Mission Street crossing Mary and Fifth Streets, along Fifth Street crossing Minna and Natoma Streets, and along Howard Street crossing Fifth and Mary Streets. Curb ramps are not provided on Mary Street at Natoma or Minna Streets.

The sidewalks adjacent to the project site generally meet the minimum sidewalk width requirements within the Better Streets Plan.

- The Mission Street sidewalk adjacent to the project site is 15 feet wide, which meets the Better Streets Plan minimum width of 12 feet and recommended width of 15 feet. Mission Street is within the Downtown Streetscape Plan area, and meets the required sidewalk width of 10 feet.
- The Howard Street sidewalk adjacent to the project site is 11 feet 6 inches wide, which does not meet the Better Streets Plan minimum sidewalk width of 12 feet or recommended width of 15 feet.
- The Fifth Street sidewalk adjacent to the project site is 10 feet wide, which does not meet the Better Streets Plan minimum sidewalk width of 12 feet, nor the recommended sidewalk

width of 15 feet. Fifth Street is within the Downtown Streetscape Plan area, and meets the required sidewalk width of 10 feet.

- The sidewalks on Minna Street adjacent to the project site are 9 feet and 11 feet wide and meet the Better Streets Plan minimum sidewalk width of 6 feet and recommended sidewalk width of 9 feet.
- The sidewalks on Natoma Street adjacent to the project site are 6 feet and 6 feet 7 inches, and meet the Better Streets Plan minimum sidewalk width of 6 feet, but not the recommended sidewalk width of 9 feet.
- The Mary Street sidewalk is 6 feet wide between Howard and Natoma streets, and 5 feet wide between Natoma and Minna streets. The segment between Howard and Natoma streets meets the minimum sidewalk width of 6 feet but not the recommended sidewalk width of 9 feet, while the segment between Natoma and Minna streets does not meet the Better Streets Plan minimum sidewalk width of 6 feet, nor recommended sidewalk width of 9 feet.

Pedestrian volume counts were conducted on Wednesday, September 12, 2012 during the weekday midday (12:00 to 2:00 p.m.) and PM (4:00 to 6:00 p.m.) peak periods at the following locations:

- At four sidewalk locations adjacent to the project site on Mission Street west of Fifth Street, on Fifth Street south of Mission Street, on Fifth Street north of Howard Street, and on Howard Street west of Fifth Street.
- At the four crosswalks each at the intersections of Fifth/Mission and Fifth/Howard.
- At the four corners each of the intersections of Fifth/Mission and Fifth/Howard.

Figure IV.D-3 presents the existing weekday midday and PM peak hour pedestrian volumes at the study locations. Adjacent to the project site, midday peak hour pedestrian volumes are about 450 pedestrians per hour on Mission Street, range from 260 to 590 pedestrians per hour on Fifth Street, and 150 pedestrians per hour on Howard Street. During the PM peak hour, pedestrian volumes are about 460 pedestrians per hour on Mission Street, range from 370 to 410 pedestrians per hour on Fifth Street, and 230 pedestrians per hour on Howard Street.

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Analysis of operating characteristics of the sidewalk, crosswalk and corner locations was conducted using the Highway Capacity Manual (HCM) 2000 methodology. With the HCM methodology, an upper limit for acceptable conditions is LOS D, which equals approximately 15 pedestrians per minute per foot for sidewalks, and 15 to 24 square feet per pedestrian for crosswalks and corners. LOS E or LOS F would represent unacceptable conditions. At LOS E normal walking gaits are frequently adjusted due to congested conditions and independent movements are difficult, and at LOS F walking speeds are severely restricted.

Table IV.D-3 presents the pedestrian analysis results for the midday peak hour conditions, while **Table IV.D-4** presents the analysis for the PM peak hour conditions. During both the midday and PM peak hours, the pedestrian levels of service are LOS D or better at the sidewalk, crosswalk and corner analysis locations, with the exception of the southeast corner at the intersection of Fifth/Mission Streets, which operates at LOS E conditions during the weekday midday and PM peak hours. At this location, due to the vehicle queuing lanes serving the Fifth & Mission Garage, the sidewalks adjacent to the garage are 10 feet wide. The LOS E corner operations reflect conditions assuming that all pedestrians wait at the existing sidewalks on Mission and Fifth Streets, and the pedestrian LOS analysis does not account for pedestrians queuing within the raised channelization that contains the traffic signal.

On Wednesday and Friday afternoons, between 11:00 and 2:00 p.m. mobile food vendors (usually six trucks) are stationed on Minna Street between Fifth and Mary streets underneath the existing building connection. This is a weekly event permitted by SFMTA, and would continue after implementation of the proposed project. On Wednesdays and Fridays, the number of pedestrians in the project vicinity increases during the midday period.

Table IV.D-3: Pedestrian Level of Service – Existing Conditions Weekday Midday

Analysis Locations	Pedestrians Per Hour	Level of Service	
		Measure of Effectiveness	LOS
Sidewalks		ped/min/ft	
Mission Street	452	1.6	B
Fifth Street – North	590	2.5	B
Fifth Street – South	263	1.1	B
Howard Street	149	0.4	A
Fifth/Mission – Crosswalks		sq. ft/ped	
North	518	85.7	A
South	655	66.9	A
East	686	34.7	C
West	751	20.0	D
Fifth/Mission – Corners		sq. ft/ped	
Northwest	1,359	57.4	B
Northeast	1,294	59.8	B
Southwest	1,496	29.0	C
Southeast	1,431	10.6	E
Fifth/Howard – Crosswalks		sq. ft/ped	
North	209	96.3	A
South	310	69.6	A
East	223	132.4	A
West	468	74.0	A
Fifth/Howard – Corners		sq. ft/ped	
Northwest	767	24.6	C
Northeast	522	260.9	A
Southwest	868	38.0	C
Southeast	623	55.1	B

^a Pedestrian conditions operating at LOS E or LOS F highlighted in bold.

Source: 5M Project Transportation Impact Study, October 2014.

Table IV.D-4: Pedestrian Level of Service – Existing Conditions Weekday PM

Analysis Locations	Pedestrians Per Hour	Level of Service	
		Measure of Effectiveness	LOS
Sidewalks		ped/min/ft	
Mission Street		1.6	B
Fifth Street – North	408	1.7	B
Fifth Street – South	367	1.5	B
Howard Street	229	0.7	B
Fifth/Mission – Crosswalks		sq. ft/ped	
North	468	99.7	A
South	462	101.1	A
East	641	34.3	C
West	864	15.6	D
Fifth/Mission – Corners		sq. ft/ped	
Northwest	1,422	52.5	B
Northeast	1,199	65.9	A
Southwest	1,416	30.6	C
Southeast	1,193	14.8	E
Fifth/Howard – Crosswalks		sq. ft/ped	
North	257	77.8	A
South	286	75.6	A
East	343	84.7	A
West	638	53.3	B
Fifth/Howard – Corners		sq. ft/ped	
Northwest	985	18.5	D
Northeast	690	205.2	A
Southwest	1,014	30.6	C
Southeast	719	46.3	B

^a Pedestrian conditions operating at LOS E or LOS F highlighted in bold.

Source: 5M Project Transportation Impact Study, October 2014.

During field observations, pedestrians were also observed crossing Mission Street midblock west of the existing crosswalk at Fifth Street. The number of pedestrians crossing Mission Street in the vicinity of Mary/Mint streets were counted during the AM (7:00 to 9:00 a.m.) and midday (11:00 a.m. to 2:00 p.m.) periods in June 2013 on a typical Tuesday (i.e., June 11, 2013) and on a Wednesday (i.e., June 12, 2013) during which mobile food vendors were stationed on Minna Street during the midday period. During the AM peak hour, there were about 70 pedestrians crossing Mission Street at Mary/Mint Streets on the Tuesday without the mobile food vendors, and about 40 pedestrians crossing Mission Street on the Wednesday with the mobile food vendors. During the midday period,

there were about 75 pedestrians crossing Mission Street at Mary/Mint streets on the Tuesday without the mobile food vendors, and about 170 pedestrians crossing Mission Street on the Wednesday with the mobile food vendors.

To the southeast of the proposed project, there are a number of senior housing complexes, and therefore, pedestrians at the study area locations could include seniors and persons with disabilities. Senior pedestrian and pedestrians with disabilities have special safety considerations that affect their walking experience including reduction in vision, agility, balance, speed, concentration and strength, difficulties hearing vehicles approaching from behind, and reduced ability under low light/night conditions.⁷ Seniors are more prone to suffer a fatality if involved in a crash when compared to the general population.⁸ Over the years SFMTA has implemented pedestrian safety measures aimed at reducing pedestrian-vehicle conflicts and reducing vehicle speeds within the South of Market neighborhood, particularly in the vicinity of the Moscone Center to the east of the project site, such as all-pedestrian phase (e.g., Fourth/Howard) and leading pedestrian intervals (e.g., at Third/Howard) at intersections, corner bulbouts (e.g., southwest corner of Fourth/Howard), and sidewalk widening (e.g., north sidewalk of Howard Street between Fourth and Fifth Streets).

Bicycle Conditions. Figure IV.D-4 presents the bicycle route network in the vicinity of the project site. Bikeways are typically classified as Class I, Class II, or Class III facilities.⁹ Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists. Class II bikeways are bike lanes striped within the paved areas of roadways and established for the preferential use of bicycles, while Class III bikeways are signed bike routes that allow bicycles to share travel lanes with vehicles. As shown on Figure IV.D-4, there are four San Francisco Bicycle Routes in the vicinity of the proposed project:

⁷ Federal Highway Association, FHWA University Course on Bicycle and Pedestrian Transportation, Publication No. FHWA-HRT-05-100, slide 10.

⁸ Loukaitou-Sideris, Anastasia, Is it Safe to Walk? Neighborhood Safety and Security Considerations and Their Effects on Walking, *Journal of Planning Literature*, Vol. 20, No. 3, February 2006, p. 226.

⁹ Bicycle facilities are defined by the State of California in the California Streets and Highway Code Section, 890.4.

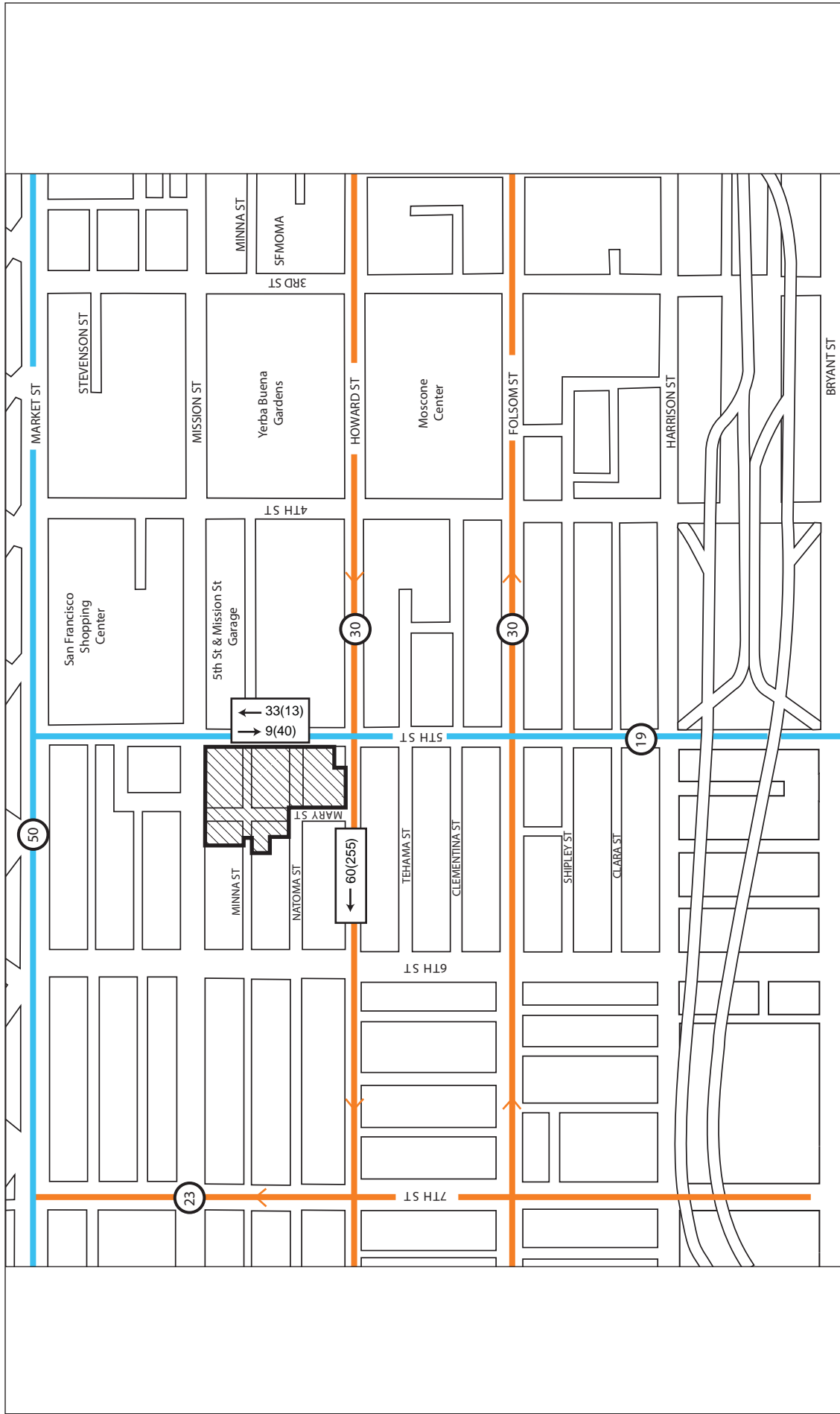
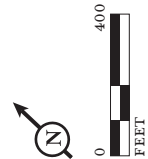





FIGURE IV.D-4

LSA



-  PROJECT SITE
-  CLASS II (BICYCLE LANE)
-  CLASS III (SIGNED ROUTE ONLY)
- ### (###) BICYCLE VOLUMES MIDDAY (PM) PEAK HOURS

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- Bicycle Route 19 runs in both directions on Fifth Street between Market Street and Townsend Street as a signed route only.
- Bicycle Route 23 runs northbound on Seventh Street between 16th Street and Market Street with a bicycle lane on the east side of the street.
- Bicycle Route 30 runs westbound on Howard Street between The Embarcadero and Eleventh Street. On Howard Street a wider curb parking lane (Class III facility) is provided between Main and Fremont Streets, and a bicycle lane (Class II facility) is provided on the north side of Howard Street between Fremont and Eleventh Streets. Bicycle Route 30 runs eastbound on Folsom Street between 14th Street and The Embarcadero as a Class II facility (signed route with bicycle lane) with a bicycle lane on the south side of the street.
- Bicycle Route 50 runs eastbound and westbound on Market Street between The Embarcadero and Castro Street. West of Castro Street, Bicycle Route 50 continues along Corbett Street, Portola Avenue, and Sloat Boulevard to the Great Highway. Bicycle Route 50 is primarily a Class III facility, with a Class II bicycle facility on the section between Eighth and Castro Streets.

Bicycle volume counts were conducted during the weekday midday (12:00 to 2:00 p.m.) and PM (4:00 to 6:00 p.m.) peak periods on September 12 and 13, 2012, and are presented in **Figure IV.D-4**. During the midday peak hour, there were about 53 bicyclists (in both directions) on Fifth Street, and 60 bicyclists on Howard Street westbound. During the PM peak hour there were about 42 bicyclists on Fifth Street, and 255 bicyclists on Howard Street westbound. No substantial safety conflicts between bicyclists and pedestrians or vehicles, or right-of-way issues were observed during field surveys. There are two bicycle racks adjacent to the project site on Fifth Street. A Bay Area Bike Share station has recently been installed within the east curb lane of Fifth Street north of Howard Street. Docks to accommodate 15 bicycles are provided.¹⁰

¹⁰ Bay Area Bike Share information available online at <http://www.bayareabikeshare.com>. Accessed January 14, 2014.

The San Francisco Bicycle Plan includes planned short-term improvements to Bicycle Route 19 on Fifth Street to provide Class II and Class III facilities in both directions between Market and Townsend Streets. These improvements would reduce the number of travel lanes and prohibit northbound and southbound left turns, along with other minor changes in lane geometry and on-street parking.

Loading Conditions. The existing Chronicle Building contains off-street loading facilities adjacent to the building, with access from Fifth Street. In addition, there are 10 on-street commercial loading spaces adjacent to the project site frontage, including:

- On Mission Street, between Fifth and Mary streets, there are two metered commercial loading spaces (each 22 feet in length), in effect on Mondays through Saturdays, between 9:00 a.m. and 4:00 p.m.
- On Fifth Street, between Mission and Howard Streets, there are five metered commercial loading spaces (20, 22, 21, 23, and 23 feet in length), in effect on Mondays through Saturdays between 7:00 a.m. and 6:00 p.m. With the exception of the passenger unloading/unloading zones, the curb regulations on Fifth Street between Mission and Natoma Streets were temporarily rescinded in 2012 to support the temporary reroute of the southbound 30 Stockton and 45 Union-Stockton from Fourth to Fifth Streets during the Central Subway construction.
- On Howard Street between Fifth and Mary Streets, there are three metered commercial loading spaces (18, 22 and 23 feet in length), and in effect on Mondays through Saturdays, between 7:00 a.m. and 6:00 p.m.

Parking Conditions. Existing off-street and on-street parking conditions were examined for the parking study area bounded by Market, Third, Folsom, and Seventh Streets. Parking conditions were assessed for the weekday midday period (1:00 to 3:00 p.m.), which is the time of peak parking demand for retail and office land uses.

Off-Street Parking Conditions. **Figure IV.D-5** presents the location of the public parking facilities in the study area, and **Table IV.D-5** presents the weekday midday parking supply and occupancy data. In the parking study area there are six off-street public parking facilities, providing about 3,300 spaces. Overall, the off-street parking facilities within the study area are at about 58 percent of capacity during the weekday midday.

The Fifth & Mission Garage, containing about 2,600 parking spaces, is located to the east of the project site (i.e., across the street). This garage is open 24-hours a day and serves the retail, convention, and nighttime uses in the area (e.g., Yerba Buena Center for the Arts, cinema). Based on SFPark data for March 2013, the weekday parking occupancy generally ranges between 40 and 60 percent during the midday period (i.e., noon to about 3:30 p.m.), and between 20 and 30 percent during the late evening (i.e., between 9:00 and 10:00 p.m.). Parking occupancy is greater on Friday and Saturday evenings (between 40 and 50 percent) and during the Saturday midday period (between 70 and 80 percent). The Fifth & Mission Garage can reach capacity during large Moscone Center events and on peak holiday shopping days.

Table IV.D-5: Off-Street Parking Supply and Utilization – Weekday Midday Conditions

Facility	Spaces	Occupied Spaces	Percent Occupied
1. Fifth & Mission Garage	2,586	1,356	52%
2. Jessie Square Garage	372	273	73%
3. Pacific Place Garage	100	70	70%
4. Pickwick Hotel Garage	37	37	100%
5. 1026 Mission St Lot	65	59	91%
6. 301 Fifth Street Lot	<u>130</u>	<u>112</u>	<u>86%</u>
<i>subtotal</i>	3,290	1,907	58%

Source: 5M Project Transportation Impact Study, October 2014.

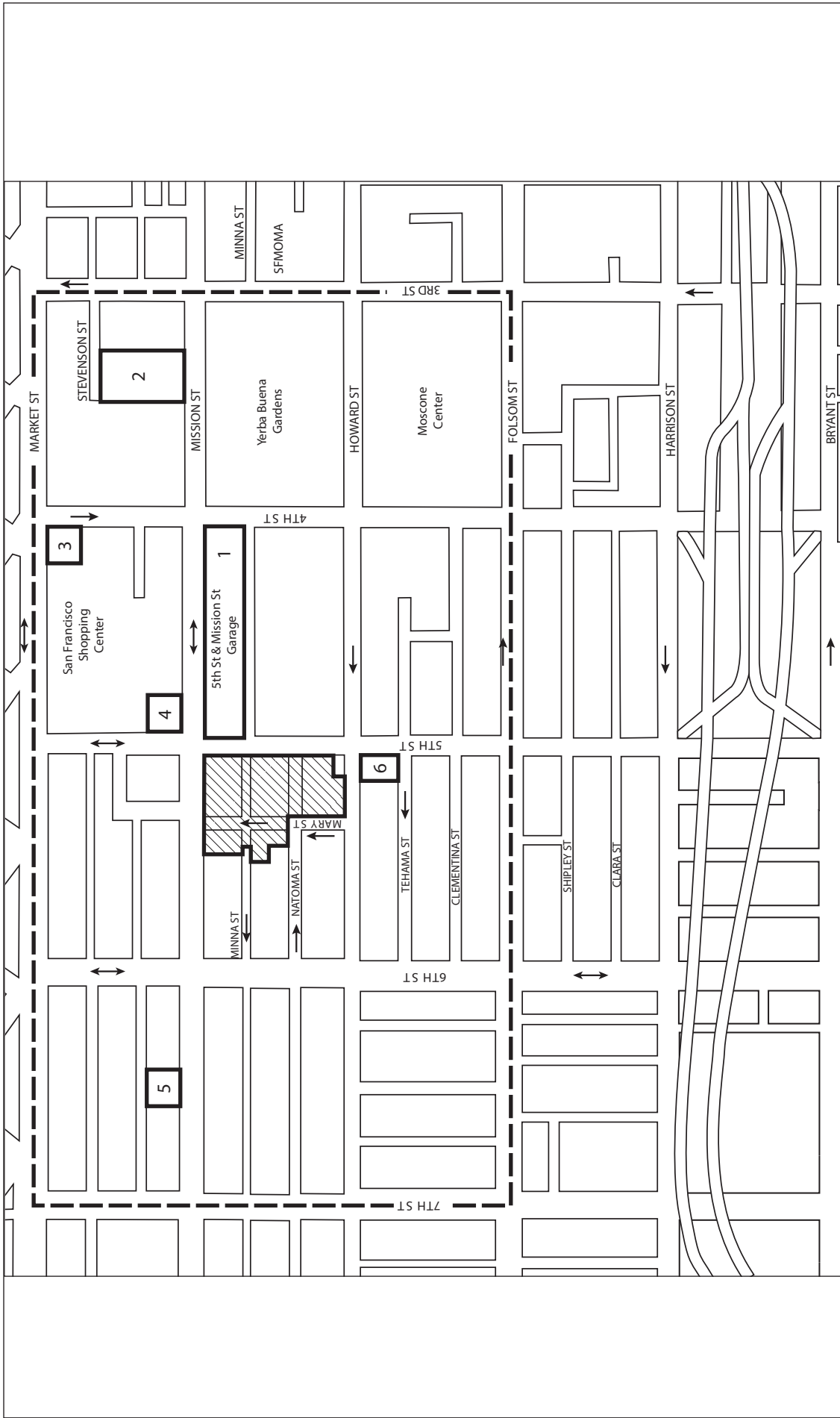
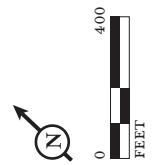


FIGURE IV.D-5

LSA



There are seven surface parking lots on the project site containing about 256 parking spaces. All seven lots are gated reserved parking lots, and are not open as public parking facilities. During field surveys conducted on March 5, 2013, the overall occupancy of six of the seven lots that would be eliminated was about 65 percent at 3:00 p.m., and about 25 percent at 7:00 p.m. During the 5:00 to 6:00 p.m. peak hour, a total of five vehicles entered the parking lots and 49 vehicles exited the parking lots.

On-Street Parking Conditions. The existing on-street parking conditions were qualitatively assessed during the same time period as the off-street parking facilities. The on-street curb parking regulations are presented in **Figure IV.D-6**.

- On Mission Street adjacent to the project site, there is a 120-foot bus stop, a passenger loading/unloading zone, and two metered commercial loading spaces and five standard metered parking spaces.
- On Fifth Street between Mission and Howard Streets, there are two passenger loading/unloading zones, five metered commercial loading spaces, six standard metered parking spaces, and 16 motorcycle parking spaces.
- On Howard Street between Fifth and Mary Streets, there are three metered commercial loading spaces, and five standard metered parking spaces.
- Time-limited on-street parking (1-hour non-metered) is generally permitted on the north side of Minna Street, and on the south side of Natoma street. On-street parking is currently not permitted on either side of Minna Street between Fifth and Mary Streets (i.e., adjacent to the project site).

In general, on-street parking within the vicinity of the project site on Howard, Mission and Fifth Streets comprises 1-hour standard metered spaces and 30-minute commercial vehicle metered spaces. On most streets, the commercial vehicle meters are in effect from 9:00 a.m. to 3:00 p.m. In general, the on-street parking spaces are well utilized throughout the day; however, due to the 30-minute limit and commercial vehicle parking restrictions, commercial vehicle spaces are generally available. On-street parking spaces are generally available during the overnight hours.

Emergency Access Vehicle Conditions. Emergency vehicle access to the project site is primarily from Mission, Fifth and Howard Streets, with secondary access via Minna and Natoma Streets. Depending on the length of the emergency vehicle (e.g., ambulance versus fire truck), some emergency vehicles accessing Minna and Natoma Streets from southbound Fifth Street may need to make a wide turn into the one-lane alley, and therefore, may encroach onto the northbound travel lanes.¹¹ The vertical clearance on Minna Street is 16 feet, which is adequate clearance for fire trucks (i.e., 13 feet 6 inches). It is unlikely that emergency vehicles use Mary Street to access Minna or Natoma Streets. There are two San Francisco Fire Department fire stations near the project site: Station 1 (Folsom Street at Fifth Street) and Station 8 (Bluxome Street at Fourth Street).

REGULATORY FRAMEWORK

Federal, State and Regional Regulations

There are no federal, State or regional transportation regulations applicable to the proposed project.

Local Regulations

San Francisco General Plan. The Transportation Element of the San Francisco General Plan is composed of objectives and policies that relate to the eight aspects of the citywide transportation system: General Regional Transportation, Congestion Management, Vehicle Circulation, Transit, Pedestrian, Bicycles, Citywide Parking, and Goods Management. The Transportation Element references San Francisco's "Transit First" Policy in its introduction, and contains objectives and policies that are directly pertinent to consideration of the proposed project, including objectives related to locating development near transit investments, encouraging transit use, and traffic signal timing to emphasize transit, pedestrian, and bicycle traffic as part of a balanced multimodal transportation system. The San Francisco General Plan also emphasizes alternative transportation through the

¹¹ Per the California Vehicle Code, Section 21806, all vehicles must yield right of way to emergency vehicles and remain stopped until the emergency vehicle has passed.

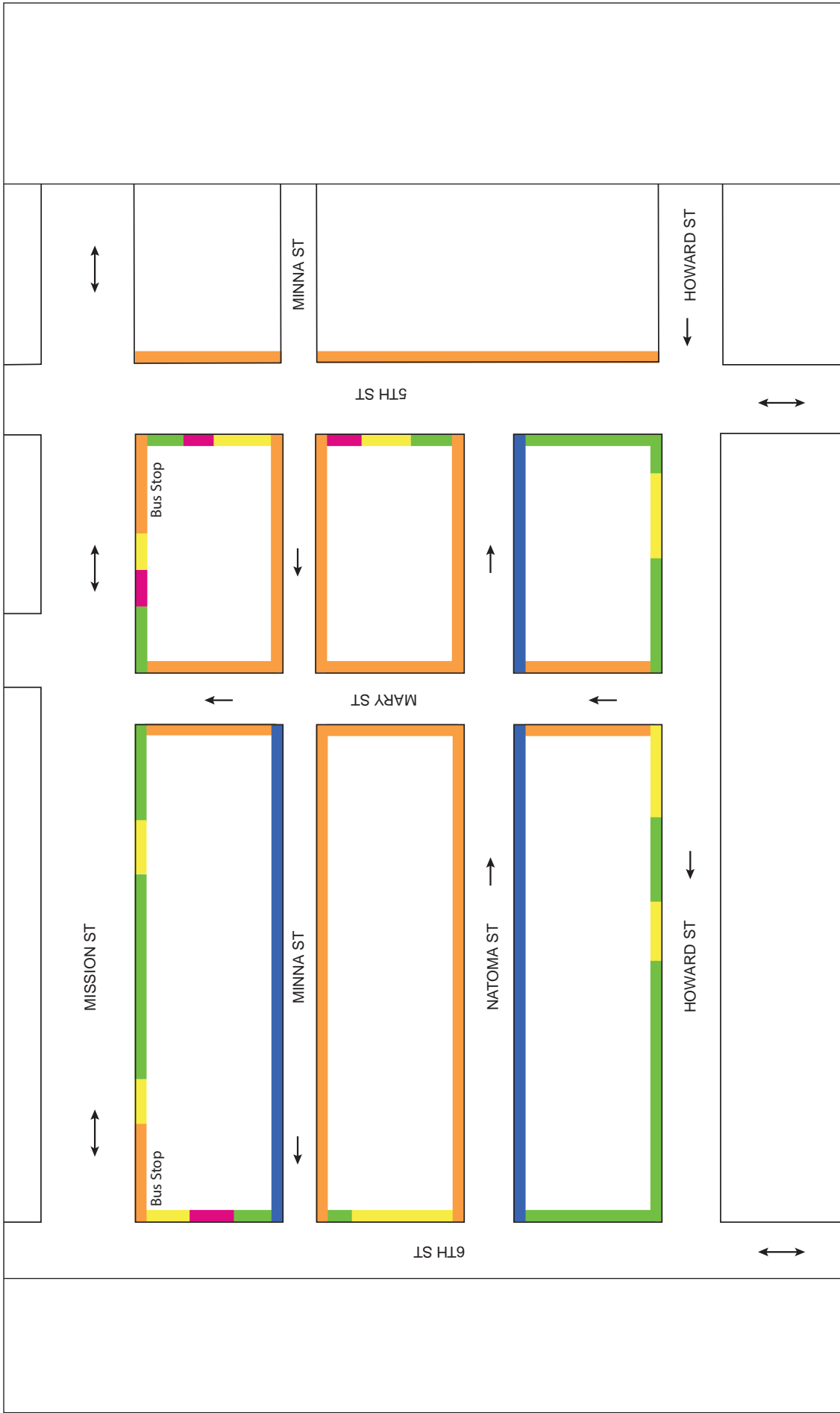


FIGURE IV.D-6

LSA



NOT TO SCALE

- NO PARKING
- 1 HOUR PARKING
- METERED PARKING (INCLUDING MOTORCYCLE AND BLUE ADA SPACE)
- COMMERCIAL LOADING
- WHITE ZONE

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positioning of building entrances, making improvements to the pedestrian environment, and providing safe bicycle parking facilities.

San Francisco Bicycle Plan. The Bicycle Plan describes a City program to provide the safe and attractive environment needed to promote bicycling as a transportation mode. The Bicycle Plan identifies the citywide bicycle route network, and establishes the level of treatment (i.e., Class I, Class II or Class III facility) on each route. The Bicycle Plan also identifies near-term improvements as well as policy goals, objectives and actions to support these improvements. It also includes long-term improvements, and minor improvements that would be implemented to facilitate bicycling in San Francisco.

San Francisco Better Streets Plan. The Better Streets Plan focuses on creating a positive pedestrian environment through measures such as careful streetscape design and traffic calming measures to increase pedestrian safety. The Better Streets Plan includes guidelines for the pedestrian environment, which it defines as the areas of the street where people walk, sit, shop, play, or interact. Generally speaking, the guidelines are for design of sidewalks and crosswalks; however, in some cases, the Better Streets Plan includes guidelines for certain areas of the roadway, particularly at intersections.

Transit First Policy. In 1998, the San Francisco voters amended the City Charter (Charter Article 8A, Section 8A.115) to include a Transit-First Policy, which was first articulated as a City priority policy by the Board of Supervisors in 1973. The Transit-First Policy is a set of principles which underscore the City's commitment that travel by transit, bicycle, and foot be given priority over the private automobile. These principles are embodied in the policies and objectives of the Transportation Element of the San Francisco General Plan. All City boards, commissions, and departments are required, by law, to implement transit-first principles in conducting City affairs.

IMPACTS

This section analyzes the impacts to the transportation system that could result from the proposed project. The section begins with the significance criteria, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project.

Significance Criteria

The following are the significance criteria used by the Planning Department for the determination of impacts associated with a proposed project¹²:

- In San Francisco, the threshold for a significant adverse impact on traffic has been established as deterioration in the level of service (LOS) at a signalized intersection from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially significant if project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or LOS F and Caltrans signal warrants would be met, or causes Caltrans signal warrants to be met when the worst approach is already at LOS E or LOS F.

For an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending upon the magnitude of the project's contribution to the worsening of delay. In addition, a project would have a significant adverse effect if it would cause major traffic hazards, or would contribute considerably to the cumulative traffic increases that would cause the deterioration in LOS to unacceptable levels (i.e., to LOS E or LOS F).

¹² Public Resources Code Section 21099(d), effective January 1, 2014, provides that, "aesthetics 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." However, the Planning Department acknowledges that parking conditions may be of interest to the public and the decision makers. Therefore, this EIR presents a parking demand analysis for informational purposes and considers any secondary physical impacts associated with constrained supply as applicable in the transportation analysis.

- The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in operating costs or delays such that significant adverse impacts in transit service levels could result. With the Muni and regional transit screenlines analyses, the project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the peak hour.
- The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.
- The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.
- The project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within the proposed on-site loading facilities or within convenient on-street loading zones, and if it would create potentially hazardous traffic conditions or significant delays affecting traffic, transit, bicycles or pedestrians.
- A project would have a significant effect on the environment if it would result in inadequate emergency vehicle access.
- Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

Approach to Analysis

This section presents the methodology for analyzing the transportation impacts and information considered in developing travel demand for the proposed project. The impacts of the proposed project on the surrounding roadways were analyzed using the guidelines set forth in the San

Francisco Planning Department's 2002 Transportation Impact Analysis Guidelines for Environmental Review (*SF Guidelines*). The *SF Guidelines* provide direction for analyzing transportation conditions and identifying the transportation impacts of a proposed project in the City of San Francisco.

The analysis of the proposed project was conducted for existing and 2040 cumulative conditions. "Existing plus Project" conditions assess the near-term impacts of the proposed project, while "2040 Cumulative" conditions assess the long-term impacts of the proposed project in combination with other reasonably foreseeable future development and transportation network changes.

Impact Analysis Methodology

Traffic Analysis. As with existing conditions, the analysis of the effect of the proposed project on the study intersections was based on the LOS methodology described in the HCM 2000. LOS is a qualitative description of an intersection's performance based on the average delay per vehicle. Intersection levels of service range from LOS A, which indicates free flow or excellent vehicle flow conditions with short delays, to LOS F, which indicates congested or overloaded vehicle flow conditions with extremely long delays. In San Francisco, LOS A through D are considered acceptable, and LOS E and LOS F are considered unsatisfactory service levels.

Transit Impacts. The impact of additional transit ridership generated by the proposed project was assessed for the local and regional transit screenlines, and the impact of the additional project-generated vehicle trips on transit routes in the vicinity of the project site was also assessed.

Local and Regional Transit Screenline Analysis. The availability of Muni service capacity was analyzed in terms of a series of screenlines. The concept of screenlines is used to describe the magnitude of travel to or from the greater downtown area, and to compare estimated transit volumes to available capacities. Screenlines are hypothetical lines that would be crossed by persons traveling between downtown and its vicinity and other parts of San Francisco and the region. Four screenlines have been established in San Francisco to analyze potential impacts of projects on Muni service: northeast, northwest, southwest, and southeast, with sub-corridors within each screenline. The bus

and light rail lines used in this screenline analysis are considered the major commute routes from the downtown area. Other bus lines, such as “policy” lines and lines with greater than 10-minute headways are not included, due to their generally lower ridership.

The screenline for each route reflects the maximum load point (MLP) for each Muni line that crosses one of the screenlines. The MLP for each individual line may occur at some point of either side of the schematic lines drawn for graphical representation. For the purpose of this analysis, Muni ridership measured at the four San Francisco screenlines and sub-corridors represents the peak direction of travel and patronage loads for the Muni system, which corresponds with the evening commute in the outbound direction from the downtown area to other parts of San Francisco. As a means to determine the amount of available space within each screenline, capacity utilization is used, which relates the number of passengers per transit vehicle to the design capacity of the vehicle. The capacity per vehicle includes both seated and standing capacity, where standing capacity is somewhere between 30 to 80 percent of seated capacity (depending upon the specific transit vehicle configuration). For example the capacity of a light rail vehicle is 119 passengers, the capacity of a historic streetcar is 70 passengers, and the capacity of a standard bus is 63 passengers.

Muni’s established capacity utilization standard for peak period operations is 85 percent. It should be noted that the 85 percent utilization is of seated and standing loads, so at 85 percent all seats are taken and there are many standees. Muni screenlines and subcorridors at or near 85 percent capacity operate under noticeably crowded conditions with many standees. Because each screenline and most sub-corridors include multiple lines, each with several vehicles during the peak hour, some individual vehicles may operate at or above 85 percent of capacity and are extremely crowded, while others operate under less crowded conditions. Moreover, the extent of crowding is exacerbated whenever target headways are not met through either missed runs and/or bunching in service. Thus, in common with other types of transportation operations such as roadways and parking facilities, transit operators may experience substantial problems in service delivery even when operating at less than 85 percent of capacity.

A screenline analysis was also performed on the regional transit carriers (AC Transit, BART, Caltrain, Golden Gate Transit and SamTrans), in order to determine the current service volumes and capacity. Three regional screenlines have been established around San Francisco to analyze potential impacts of projects on the regional transit carriers. For the purpose of this analysis, the ridership and capacity at the three screenlines represents the peak direction of travel and patronage loads, which corresponds with the evening commute in the outbound direction from downtown San Francisco to the region. As a means to determine the amount of available space for each regional transit provider, capacity utilization is also used. For all regional transit operators, the capacity is based on the number of seated passengers per vehicle. All of the regional transit operators have a 1-hour load factor standard of 100 percent, which would indicate that all seats are full.

Transit Delay. Impacts of the proposed project on transit lines were also measured in terms of increases to transit travel times. The analysis evaluated increases to transit travel times associated with the following three influencing factors:

- *Traffic congestion delay:* Traffic congestion associated with increases in area traffic slows down transit vehicles and results in increased transit travel times. Traffic congestion delays are calculated by summing the average vehicular delay at each intersection along the transit routes within the study area. The increase in total route segment delay is equal to the increase in travel time associated with the project.
- *Transit reentry delay:* Transit vehicles typically experience delays after stopping to pick up and drop off passengers while waiting for gaps in adjacent street traffic in order to pull out of bus stops. As traffic volumes on the adjacent street increase, reentering the flow of traffic becomes more difficult and transit vehicles experience increased delay. Transit reentry delay was calculated using empirical data in the 2000 HCM. Total transit reentry delay for each route was calculated as the sum of transit reentry delay at each stop within the study area.
- *Passenger boarding delay:* Although increases in transit ridership are generally viewed positively, the amount of time a transit vehicle has to stop to pick up and drop off passengers (i.e., the transit vehicle dwell time) is directly correlated to the number of passengers boarding the vehicle. As general transit ridership grows, vehicles have to spend

more time at stops, which may increase overall transit travel times. Passenger boarding delay was calculated assuming 4 seconds per passenger boarding. Passenger boardings within the study area were estimated using the transit assignment by line.

For the transit delay analysis, the project was determined to have a significant impact if it would increase transit travel times so that additional transit vehicles would be required to maintain the existing headways between buses. This was assumed to be the case if the project's travel time increases to a particular route would be greater than half of the existing route headway, or the added travel time would require the provision of one or more additional transit vehicles in order to maintain scheduled service, as determined by SFMTA's scheduling spreadsheet. The transit delay analysis was conducted for the 14 Mission, 14L Mission Limited, and 14X Mission Express routes on Mission Street, the 27 Bryant route on Fifth Street, SamTrans routes on Howard Street, and Golden Gate Transit routes on Mission Street.

Bicycle Analysis. Bicycle conditions were assessed qualitatively as they relate to the project site, including bicycle routes, safety and right-of-way issues, and conflicts with traffic.

Pedestrian Analysis. Pedestrian conditions were assessed qualitatively as they relate to the project site, including safety and right-of-way issues, and conflicts with traffic. In addition, a quantitative analysis of operating characteristics of the sidewalk, crosswalk and corner locations was conducted using the HCM 2000 methodology.

- Sidewalk operating conditions are measured by average pedestrian flow rate, which is defined as the average number of pedestrians that pass a specific point on the sidewalk during a certain period (pedestrians per minute per foot or p/m/f). The width of the sidewalk at this point is considered the "effective width," which accounts for reduction in amount of sidewalk available for travel due to street furniture and the side of buildings. The level of service for sidewalks is presented for "platoon" conditions, which represent the conditions when pedestrians are walking together in a group. Pedestrian level of service conditions were calculated at the most restrictive location adjacent to the project site.

- Crosswalk and corner LOS are measurements of the amount of space (square feet) each pedestrian has in the crosswalk or corner. These measurements depend on pedestrian volumes, signal timing, corner dimensions, crosswalk dimensions and roadway widths.

With the *HCM* methodology, an upper limit for acceptable conditions is LOS D, which equals approximately 15 pedestrians per minute per foot for walkways, and 15 to 24 square feet per pedestrian for crosswalks and corners. LOS E or LOS F would represent unacceptable conditions. At LOS E normal walking gaits are frequently adjusted due to congested conditions and independent movements are difficult, and at LOS F walking speeds are severely restricted.

Loading Analysis. Loading was analyzed by comparing the on-site and on-street loading spaces proposed as part of the project to the projected loading demand.

Emergency Vehicle Access. Potential project-related changes affecting emergency vehicle access were assessed qualitatively. Specifically, the analysis assessed whether any of the proposed project elements would preclude adequate emergency vehicle access.

Construction Analysis. Potential short-term and temporary construction impacts related to transportation were assessed qualitatively. The potential for overlapping construction of the project in combination with other cumulative projects was also assessed qualitatively.

Project Travel Demand

Project travel demand refers to the new vehicle, transit, and pedestrian traffic generated by the proposed project. This section provides an estimate of the travel demand, including parking and freight loading that would be generated by the Office Scheme and Residential Scheme.

The project site contains eight buildings and seven surface parking lots with a total of approximately 256 parking spaces. The existing buildings on the site provide a total of approximately 317,700 gross square feet (gsf) of building space containing office, cultural and educational uses. During the PM peak hour, about five inbound and 49 outbound vehicle trips travel to and from the surface parking lots that would be displaced with the proposed project. These surface parking facilities are reserved

parking serving the existing Chronicle Building, and these vehicle trips would be displaced to other off-street facilities and to on-street parking spaces. As part of a conservative assessment, the persons and vehicles traveling to and from the project site were not subtracted from the trips that would be generated by the new uses, as these trips are associated with activities that will continue to operate in the area and may remain in the vicinity (including within the proposed project). Therefore, as a conservative assessment, the existing person- and vehicle-trips traveling to and from the project site were not subtracted from the travel demand generated by the new uses.

The proposed project includes programming elements such as arts and cultural events, other public events, and collaborations among businesses and organizations that use the commercial spaces. These could include outdoor film screenings, night markets, food events, street fairs or festivals, lecture series and theater performances during weekdays and weekends. These events would be internal to the project site (e.g., within buildings, within the rooftop open space, or within Mary Court), and would not occur on the sidewalks on Mission, Fifth, or Howard Streets. The typical event, occurring up to an estimated three times a month, could have attendance of approximately 500 to 750 people, a large portion of which are anticipated to be from within the project. Many events would occur on weekday evenings and on weekends when commercial office spaces would not be occupied and because the transportation network is less congested on weekday evenings and on weekends than during the weekday PM peak hour, and events occurring during the weekday daytime hours, such as food events, would be patronized largely by employees, visitors, and residents of the proposed project. Certain events may attract additional, primarily walk, trips to the project site and conditions may be slightly more congested as a result, but given the size, timing, frequency and internal attendance of these events, conditions would not be materially different than the analysis presented herein. Larger-scale events, occurring approximately two times per year, could have attendance of up to 5,000 people. These events would also be internal to the site, but may require sidewalk or roadway closures, and would be subject to SFMTA's and SFDPW's permitting process. Further, approval of events that request street closures are authorized by the San Francisco Interdepartmental Staff Committee on Traffic and Transportation, and a transportation management plan is developed to address vehicular and non-vehicular access, detours, etc. associated with any street closures, as well as the need for and number of traffic control officers. Due to their infrequency, these events are not likely

to materially affect the conclusions of this analysis. Therefore, the impacts of the daytime events are assessed qualitatively for midday pedestrian conditions.

Trip Generation. The person-trip generation includes both employees and visitors to the project site, and is based on daily and weekday PM peak hour trip generation rates (number of trips per unit for the residential use, and number of trips per 1,000 square feet of use for the office, retail and restaurant uses) presented in the *SF Guidelines*. To account for the large scale and location of the project, to reflect that trips generated by the new uses would not all be new trips to the area, and to reflect that a portion of the trips would be linked with existing and new trips, internalization and passby trip factors were applied to the trip generation estimates calculated using the *SF Guidelines* rates. Due to the large scale of the project (i.e., approximately 1.8 million square feet) and mix of development (i.e., residential, office, retail, and restaurant), it would be expected that some new residents to the area would frequent the retail and restaurant establishments within the project site, and some new residents may also work within the project site and in the project vicinity. Therefore, a portion of the trips generated by the residential, office, retail and restaurant uses would be internal to the site and would be the same trips (e.g., residential trip generation, which accounts for work and shopping trips, would also be the trips generated by the retail and office uses). An internalization factor was developed using a state-of-the-practice trip generation forecasting model used in developing travel demand for other project-specific analyses in San Francisco including the Treasure Island/Yerba Buena Island, Parkmerced, Candlestick Point-Hunters Point Shipyard projects. The method, commonly referred to as the “4D” method, accounts for the following factors that may influence travel behavior: development scale, density of project, density of uses, and design of project. Based on proposed project uses, quantities and location, and professional judgment, an internalization factor of 23.6 percent was developed and applied to the travel demand calculated based on the *SF Guidelines* trip generation rates. In other words, 23.6 percent of the trips generated by the project would be not be new trips to or from the project site, but instead would be internal to the project and would not utilize adjacent roadways, sidewalks, transit, or parking spaces. The internalization factor applied to the proposed project travel demand is consistent with the internalization factor of 25 percent developed using the SF-CHAMP travel demand model and applied to proposed projects in the South

of Market area as part of the nearby Transit Center District Plan¹³ (including this project). In addition, the 23.6 percent internalization factor is conservative, as the current SF-CHAMP model forecasts for the South of Market area with the Central SoMa Plan land use growth would result in an internalization factor of 45 to 50 percent.

Table IV.D-6 presents the daily and PM peak hour trip generation for the Office Scheme and the Residential Scheme. The Office Scheme would generate about 39,064 person-trips (inbound and outbound) on a daily basis and about 4,160 person-trips (inbound and outbound) during the PM peak hour, while the Residential Scheme would generate about 37,129 person-trips (inbound and outbound) on a daily basis and about 4,158 person-trips (inbound and outbound) during the PM peak hour.

Table IV.D-6: Proposed Project Daily and PM Peak Hour Person-Trip Generation

Land Use	Size	Person Trips ^a	
		Daily	PM Peak Hour
Office Scheme^b			
Office	872,900 gsf	12,066	1,025
Residential ^c	914 units	5,737	993
Retail	141,600 gsf	16,221	1,461
Restaurant	11,000 gsf	5,040	681
	Total	39,064	4,160
Residential Scheme			
Office	598,500 gsf	8,273	703
Residential ^b	1,209 units	7,595	1,314
Retail	141,600 gsf	16,221	1,460
Restaurant	11,000 gsf	5,040	681
	Total	37,129	4,158

^a External trips only, assuming the 23.6 percent internalization rate.

^b The total square footage of office uses in the Office Scheme has been reduced to 872,900, resulting in a total of 1,827,000 gsf for the proposed project Office Scheme. This minor revision in gsf would not materially change the impact analysis.

^c The Office Scheme includes 651 studio/one bedroom units and 263 two- and three bedroom units for a total of 914 residential units, while the Residential Scheme includes 858 studio/one bedroom units and 351 two- and three bedroom units for a total of 1,209 residential units.

Source: *5M Project Transportation Impact Study*, October 2014.

¹³ AECOM, *Transit Center District Plan Transportation Impact Study, Final Report*, September 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File Nos. 2007.0558E and 2009.0789E.

Mode Split. The project-generated person-trips were assigned to travel modes in order to determine the number of auto, transit and other trips. “Other” includes walk, bicycle, motorcycle, taxi and additional modes. For the proposed office, retail, and restaurant uses, mode split information was taken from the *SF Guidelines* for employee and visitor trips to the C-3 District. Mode split information for the residential uses was based on the 2006-2010 American Community Survey (ACS) journey-to-work data for Census Tract 176.01 in which the proposed project is located.

Auto person-trips refer to person-trips either as a driver or passenger in a private vehicle. An average vehicle occupancy rate, as obtained from the *SF Guidelines* for the office, retail, and restaurant uses (varies by use, origin and destination, and work versus non-work trip) and from the ACS data for the residential uses, was applied to the number of auto person-trips to determine the number of vehicle-trips generated by the proposed land uses.

Table IV.D-7 summarizes the weekday PM peak hour trip generation by mode for the proposed project for the Office Scheme and Residential Scheme.

- **Office Scheme** – During the PM peak hour, about 27 percent of all person-trips would be by auto, 35 percent by transit, and 38 percent by other modes. The Office Scheme would generate about 730 vehicle-trips during the PM peak hour (278 inbound and 452 outbound vehicle trips). Of the 730 vehicle trips during the weekday PM peak hour, the 914 residential units would generate 100 inbound and 51 outbound vehicle trips, while the 1,025,500 gsf of commercial uses (i.e., office, retail and restaurant uses) would generate 178 inbound and 401 outbound vehicle trips.
- **Residential Scheme** – During the PM peak hour, about 26 percent of all person-trips would be by auto, 35 percent by transit, and 39 percent by other modes. The Residential Scheme would generate about 706 vehicle-trips during the PM peak hour (306 inbound and 400 outbound). Of the 706 vehicle trips during the weekday PM peak hour, the 1,209 residential units would generate 133 inbound and 67 outbound vehicle trips, while the 751,100 gsf of commercial uses would generate 173 inbound and 333 outbound vehicle trips.

Table IV.D-7: Proposed Project Trip Generation by Mode – Weekday PM Peak Hour

Land Use	Person-Trips ^a				Vehicle Trips ^a
	Auto	Transit	Walk/Other ^b	Total ^c	
Office Scheme					
Office	337	595	94	1,025	233
Residential	169	506	318	993	151
Retail	416	248	797	1,461	236
Restaurant	194	116	371	681	110
Total	1,116	1,465	1,580	4,161	730
Inbound	430	529	817	1,776	278
Outbound	686	936	763	2,385	452
Total	1,116	1,465	1,580	4,161	730
Residential Scheme					
Office	231	408	64	703	160
Residential	223	670	420	1,314	200
Retail	416	248	797	1,460	236
Restaurant	194	116	371	681	110
Total	1,064	1,441	1,652	4,158	706
Inbound	458	626	926	2,011	306
Outbound	606	815	726	2,147	400
Total	1,064	1,441	1,652	4,158	706

^a External trips only, assuming the 23.6 percent internalization rate.

^b "Other" mode includes bicycles, motorcycles, and taxis.

^c Trips may not sum to Total due to rounding.

Source: 5M Project Transportation Impact Study, October 2014.

Trip Distribution/Assignment. The distribution of trips for the proposed project was obtained from the *SF Guidelines* for the office, retail and restaurant uses, and from 1990 Census data for the residential trips. The 1990 Census data was used because directional distribution information is not available from the 2000 or 2010 Census or ACS data. The distribution is based on the origin/destination of a specific trip, and is separated into the four quadrants of San Francisco (Superdistricts 1 through 4), East Bay, North Bay, South Bay and Out of Region.

As indicated in **Table IV.D-8**, the majority of the trips generated by the proposed project would occur within San Francisco, with smaller percentages to and from the other areas. Because the parking demand would not be accommodated within the project site, and because the majority of the on-site vehicle parking would be for the residential uses (i.e., 457 of the 663 parking spaces for the Office Scheme, and 605 of the 756 parking spaces for the Residential Scheme), vehicle trips associated

with the office uses (i.e., the majority of the non-residential development) were assigned to the on-site garage, while the retail and restaurant vehicle trips were assigned to the Fifth & Mission Garage. As a conservative assumption for the traffic analysis at the study intersections, no vehicle trips were assigned to other parking garages or surface lots in the project vicinity but further from the project site than the Fifth & Mission Garage. The assignment also assumes that left turns from Fifth Street northbound onto Minna Street westbound would not be permitted with the proposed project. This left turn restriction would need to be legislated by SFMTA.

Table IV.D-8: Proposed Project Trip Distribution Patterns

Origin/Destination	Office		Retail & Restaurant		Residential
	Work	Visitor/ Non-Work	Work	Visitor/ Non-Work	Work and Non-Work
San Francisco					
Superdistrict 1	7.9%	17.0%	14.1%	8.0%	60.7%
Superdistrict 2	15.3%	14.0%	15.7%	8.0%	8.6%
Superdistrict 3	22.1%	14.0%	19.9%	12.0%	8.6%
Superdistrict 4	11.3%	7.0%	12.0%	4.0%	8.6%
East Bay	24.1%	23.0%	22.7%	15.0%	3.5%
North Bay	4.3%	8.0%	2.9%	10.0%	0.6%
South Bay	13.7%	13.0%	11.1%	5.0%	8.8%
Outside of Region	1.3%	4.0%	1.6%	38.0%	1.1%
Total	100%	100%	100%	100%	100%

Source: 5M Project Transportation Impact Study, October 2014.

These distributional patterns were used as the basis for assigning the new vehicle-trips to the local streets in the study area, and the new transit trips to the local and regional transit operators. During the PM peak hour, vehicle trips were assigned to the proposed project garage and the Fifth & Mission Garage, as follows:

Residential and Office Vehicle Trips (assigned to the proposed project garage). A total of 412 PM peak hour vehicle trips were assigned to the three proposed project garage driveways, including 142 inbound and 270 outbound vehicle trips. These trips were distributed to the driveways as follows:

- 31 inbound and 16 outbound vehicle trips were assigned to the garage driveway within Building M-2 on Minna Street. The assignment and intersection analysis assumes that, as part of the proposed project, left turns from Fifth Street northbound onto Minna Street westbound would not be permitted.
- 51 inbound and 127 outbound vehicle trips were assigned to the garage driveway within Building N-1 Building on Minna Street. The assignment and analysis assumes that, as part of the proposed project, left turns from Fifth Street northbound onto Minna Street westbound would not be permitted.
- 60 inbound and 127 outbound vehicle trips were assigned to the garage driveway within Building H-1 on Howard Street.

Retail and restaurant vehicle-trips were assigned to the Fifth & Mission Garage. A total of 346 PM peak hour vehicle trips were assigned to the Fifth & Mission garage, including 164 inbound and 182 outbound vehicle trips. These trips were distributed to the Fifth & Mission Garage driveways as follows:

- 9 inbound and 19 outbound vehicle trips were assigned to the Fifth & Mission Garage via the Mission Street entrance/exits.
- 155 inbound and 163 outbound vehicle trips were assigned to the Fifth & Mission Garage via the Minna Street entrance/exits.

The proposed project also includes programming elements such as arts and cultural events, other public events, and collaborations among businesses and organizations that use the commercial space. In addition to existing Off the Grid food truck events, which currently occur on the site twice a week, events on the project site could include outdoor film screenings, night markets, food events, streets fairs or festivals, lecture series, and theater performances during weekdays and weekends. Typical event, occurring up to an estimated three times a month, could have attendance of approximately 500 to 750 people, while larger-scale events, occurring up to approximately twice per year, could have attendance up to 5,000 people. Because information regarding possible events is not known at this time, these events have not been specifically called-out in the travel demand estimates. However,

because many events would occur on weekday evenings and on weekends when commercial office spaces would not be occupied and because the transportation network is less congested on weekday evenings and on weekends than during the weekday PM peak hour of analysis, the impact of the weekday evening and weekend events would be less than the analysis below. Events occurring during the weekday daytime hours, such as food events, would be patronized by employees, visitors, and residents of the proposed project, although depending on the event, may attract additional, primarily walk, trips to the project site. Also, larger events that would require sidewalk or roadway closures would be subject to SFMTA's and SFDPW's permitting process. Therefore, the impacts of the daytime events are assessed qualitatively for midday pedestrian conditions.

Loading Demand. Freight delivery and service vehicle demand was estimated based on the methodology and truck generation rates presented in the *SF Guidelines*. Because the proposed project includes sharing of on-site loading facilities, as well as management and scheduling of deliveries/service vehicles, the *SF Guidelines* methodology for determining loading space demand was adjusted to reflect that loading activities would occur over a 12-hour period (e.g., between 6:00 a.m. and 6:00 p.m.), rather than over the 9-hour period used in the *SF Guidelines* methodology.

It is anticipated that about 67 percent of the delivery/service vehicles that would be generated by the proposed project would consist of small trucks and vans, and about 33 percent would be via small and large delivery trucks (about 91 of the 278 daily truck trips for the Office Scheme and 75 of the 228 daily truck trips for the Residential Scheme).¹⁴

Table IV.D-9 presents the daily truck trip generation and peak and average hour loading space demand for the Office Scheme and the Residential Scheme.

¹⁴ *SF Guidelines*, Table H-2, Percent Daily Service Vehicle Activity by Vehicle Type.

Table IV.D-9: Proposed Project Freight Delivery/Service Vehicle Trips and Loading Space Demands

Land Use	Size	Daily Truck Trip Generation	Peak Hour Loading Spaces ^a	Average Hour Loading Spaces ^a
Office Scheme ^b				
Office	872,900 gsf	183	8.0	6.4
Residential	802,500 gsf	24	1.0	0.8
Retail	141,600 gsf	31	1.3	1.1
Restaurant	11,000 gsf	40	1.7	1.4
Total	1,828,000 gsf	278	12.1	9.7
Residential Scheme				
Office	598,500 gsf	126	5.5	4.3
Residential	1,057,700 gsf	32	1.4	1.1
Retail	141,600 gsf	31	1.3	1.1
Restaurant	11,000 gsf	40	1.7	1.4
Total	1,808,800 gsf	228	9.9	7.9

^a Because the proposed project includes sharing of on-site loading facilities, as well as management and scheduling of deliveries, a 12-hour period (e.g., between 6:00 a.m. and 6:00 p.m.) rather than over a 9-hour period was assumed.

^b The total square footage of office uses in the Office Scheme has been reduced to 871,900, resulting in a total of 1,827,000 gsf for the proposed project Office Scheme. This minor revision in gsf would not materially change the impact analysis.

Source: 5M Project Transportation Impact Study, October 2014.

As indicated on **Table IV.D-9**, the Office Scheme would generate more daily truck trips and would have a greater loading space demand than the Residential Scheme.

- **Office Scheme** – The Office Scheme would generate about 278 truck trips on a daily basis. Based on the adjusted duration of loading activities, the 278 truck trips correspond to a demand for 12 loading spaces during the peak hour of loading activities and 10 loading spaces during the average hour of loading activities.
- **Residential Scheme** – The Residential Scheme would generate about 228 truck trips on a daily basis, which corresponds to a demand for 10 loading spaces during the peak hour of loading activities and eight loading spaces during the average hour of loading activities.

Parking Demand. Parking demand consists of both long-term demand (including resident and employee parking) and short-term demand (typically visitor parking). Parking demand for the proposed project was determined based on methodology presented in the *SF Guidelines*.

- For residential units, the long-term parking demand is based on the number and size of the units at a rate of 1.1 and 1.5 spaces per unit for studios/one bedroom and 2-plus bedroom units, respectively. During the weekday midday, the residential parking demand is estimated to be about 80 percent of the overnight demand.¹⁵
- For the office, retail, and restaurant uses, the long-term parking demand was estimated by determining the number of daytime employees and applying the average mode split and vehicle occupancy from the trip generation estimation; short-term parking was estimated based on the total daily visitor vehicle trips and an average turnover rate.

Table IV.D-10 presents the estimated peak parking demand for the proposed project for midday conditions and overnight conditions.

- **Office Scheme** – The Office Scheme would generate a total midday parking demand for about 2,177 spaces, of which 1,746 spaces would be for long-term parking demand and 431 spaces for short-term parking demand. The overnight parking demand associated with the residential units would be 1,111 long-term parking spaces.
- **Residential Scheme** – The Residential Scheme would generate a total midday parking demand for about 2,183 spaces, of which 1,793 spaces would be for long-term parking demand and 390 spaces for short-term parking demand. Parking demand associated with the residential uses would comprise the greatest proportion of the parking demand (i.e., 1,173 of the 2,183 space parking demand, or 54 percent of the total demand). The overnight parking demand associated with the residential units would be 1,470 long-term parking spaces.

¹⁵ *SF Guidelines*, Appendix G, Parking Demand Calculations for Commercial and Residential Projects, page G-2.

Table IV.D-10: Proposed Project Parking Demand

Analysis Period/Land Use	Long-Term Parking Spaces	Short-Term Parking Spaces	Total Parking Spaces
Midday Demand			
Office Scheme			
Office	764	131	895
Residential	889	0	889
Retail	86	229	315
Restaurant	7	71	78
Total	1,746	431	2,177
Residential Scheme			
Office	524	90	614
Residential	1,176	0	1,176
Retail	86	229	315
Restaurant	7	71	78
Total	1,793	390	2,183
Overnight Demand			
Office Scheme			
Office, Retail, Restaurant	0	0	0
Residential	1,111	0	1,111
Total	1,111	0	1,111
Residential Scheme			
Office, Retail, Restaurant	0	0	0
Residential	1,470	0	1,470
Total	1,470	0	1,470

Source: 5M Project Transportation Impact Study, October 2014.

Development of 2040 Cumulative Conditions

Foreseeable Nearby Development Projects. Reasonably foreseeable development projects that were considered in the cumulative analysis include (but are not limited to) the following:

- Central SoMa Plan (Case No. 2011.1356E)
- Transit Center District Plan (Case No. 2007.0558E)
- Central SoMa Plan (Case No. 2013.154E)
- 706 Mission Street (Case No. 2008.1084E)
- 250 Fourth Street (Case No. 2011.0038E)
- 725 Harrison Street (Case No. 2005.0759E)

- 397 Fifth Street (Case No. 2006.0444E)
- 260 Fifth Street (Case No. 2007.0690E)
- 205 Shipley Street (Case No. 2006.0679E)
- 465 Tehama Street (Case No. 2005.0424E)
- 214 Sixth Street (Case No. 2011.0119E)
- 363 Sixth Street (Case No. 2011.0586E)
- 255 Seventh Street (Case No. 2004.0588E)
- 350 Eighth Street (Case No. 2007.1035E)
- 935-965 Market Street (Case No. 2005.1074E)
- 900 Folsom Street (Case No. 2007.0689E)
- 923 Folsom Street (Case No. 2012.1333E)
- 942 Mission Street (Case No. 2008.0197E)

Chapter II, Project Description, includes a description of the cumulative setting and **Table II-8** summarizes major planned projects known to the Planning Department that are generally within the vicinity of the project site.

Cumulative Transportation Network Changes. The following transportation network changes are also incorporated into the Cumulative analysis, and are described below:

- Central Subway Project
- Central SoMa Plan
- Second Street Improvement Project
- San Francisco Bicycle Plan
- Transit Center District Plan
- Transit Effectiveness Project

Central Subway Project. The Central Subway Project is the second phase of the Third Street light rail line (i.e., T Third), which opened in 2007. Construction is currently underway, and the Central Subway will extend the T Third line northward from its current terminus at Fourth and King Streets to a surface station south of Bryant Street and go underground at a portal under US 101. From there it will continue north to stations at Moscone Center (i.e., on the west side of Fourth Street between Folsom and Clementina streets), Union Square—where it will provide passenger connections to the Powell Street Station and BART—and in Chinatown, where the line will terminate at Stockton between Clay and Jackson Streets.

Construction associated with utility relocation has been completed. Work is underway on the tunnels contract, which consists of 1.5 miles of twin-bore tunnels underneath Fourth and Stockton Streets, from I-80 to North Beach. Its major components include construction of the TBM launch box and cross passages; construction of an extraction shaft and portal; and monitoring and protection of existing utilities, buildings, and BART tunnels. Construction of the Central Subway is scheduled to be completed in 2017, and revenue service is scheduled for 2019.

Central SoMa Plan. The San Francisco Planning Department is in the process of developing an integrated community vision for the southern portion of the Central Subway rail corridor. This area is located generally between Townsend and Market Streets along Fourth Street, between Second and Sixth Streets. The plan's goal is to integrate transportation and land uses by implementing changes to the allowed land uses and building heights. The plan also includes a strategy for improving the pedestrian experience in this area. These changes will be based on a synthesis of community input, past and current land use efforts, and analysis of long-range regional, citywide, and neighborhood needs. An application has been filed for this project for conducting environmental review.

The Central SoMa Plan includes two different options for the couplet of Howard and Folsom Streets. Howard Street would be modified between Eleventh and Third Streets, while Folsom Street would be modified between Eleventh Street and The Embarcadero. Under the Howard/Folsom One-Way Option, both streets would retain a one-way configuration (except Folsom Street east of Second Street which would retain its existing two-way operation). Under the Two-Way Option, both streets would

be converted into two-way operation, and some modifications to Harrison Street would also occur. The 2040 Cumulative conditions assume implementation of the Howard/Folsom One-Way Option.

Howard/Folsom One-Way Option. Under the One-Way Option, Howard Street between Eleventh and Third streets would be modified to have two westbound travel lanes and a two-way cycle track along the south curb. Parking would be permitted along the north curb during off-peak times, while during peak travel periods, parking would be prohibited to create a third westbound travel lane. Alongside the cycle track, parking would be permitted at all times; however, at intersection approaches where left-turns are possible, parking would be removed in order to create a left-turn pocket which (along with a left-turn signal) would be necessary in order to separate left-turning vehicles from bicycles. The north sidewalk would be widened to about 15 feet, while the south sidewalk would remain at 12 feet.

Under the One-Way Option, Folsom Street between Eleventh and Second Streets would be modified to have two eastbound travel lanes and a two-way cycle track along the north curb. East of Sixth Street, parking would be permitted along the south curb during off-peak times, while during peak travel periods, parking would be prohibited to create an eastbound transit-only lane. Alongside the cycle track, parking would be permitted at all times; however, at intersection approaches where left-turns are possible, parking would be removed in order to create a left-turn pocket which (along with a left-turn signal) would be necessary in order to separate left-turning vehicles from bicycles. The south sidewalk would be widened to about 15 feet, while the north sidewalk would remain at 10 feet.

Under the One-Way Option, Folsom Street between Second Street and The Embarcadero would be modified to have two eastbound and one westbound travel lane and bicycle lanes in both directions. In this segment, parallel parking would be provided on both sides of the street alongside the bicycle lanes at all times. Consistent with the TCDP, the north sidewalk of Folsom Street would be widened to about 25 feet, and the south sidewalk would be widened to about 15 feet.

Howard/Folsom Two-Way Option. Under the Two-Way Option, Howard Street between Eleventh and Third Streets would be modified to have two westbound and two eastbound travel lanes, left-turn pockets where left turns are permitted, and bicycle lanes in each direction. Between Sixth and Fourth Streets, at all times, two westbound and two eastbound travel lanes and one bicycle lane in each direction would be provided, in addition to parallel parking along either the north or south curb. Sidewalks between Fourth and Sixth Streets would remain at 12 feet. Between Sixth and Eleventh Streets, during off-peak hours, one travel lane and one bicycle lane would be provided in each direction in addition to parallel parking along the north and south curbs; during peak hours, parking would be prohibited in order to create a second travel lane in each direction. Sidewalks between Eleventh and Sixth streets would be widened to about 15 feet.

Under the Two-Way Option, Folsom Street between Eleventh and Fourth Streets would be modified to have one eastbound and one westbound travel lane and one-way buffered or raised cycle tracks in both directions. Parallel parking would be provided on one side of the street at all times, but on block faces without parallel parking where on-street loading would be required, loading bays could be placed within the sidewalk. Right-turn pockets would be provided at intersections that, along with a right-turn signal, would be necessary in order to separate right-turning vehicles from bicycles. Sidewalks would be widened to about 15 to 18 feet. Under the Two-Way Option, left turns from eastbound Howard Street into the proposed project driveway would not be permitted.

Under the Two-Way Option, Folsom Street between Fourth and Second Streets would be modified to have one eastbound transit-only lane, one eastbound travel lane, one westbound travel lane, and one-way buffered or raised cycle tracks in both directions. Westbound auto traffic on Folsom Street would be required to turn right onto northbound Third Street during peak periods (vehicle access to the north curb of Folsom between Third and Fourth Streets would be accommodated by turning left onto westbound Folsom Street from northbound Third Street). Eastbound vehicle traffic on Folsom Street would be required to turn right onto southbound Fourth Street during peak periods (vehicle access to the south curb of Folsom Street between Fourth and Third Streets would be accommodated by turning left onto eastbound Folsom Street from southbound Fourth Street). Parallel parking would be provided adjacent to the eastbound cycle track.

Under the Two-Way Option, Folsom Street between Second Street and The Embarcadero would be modified to have one eastbound and one westbound travel lane and one-way buffered cycle tracks in both directions. Parallel parking would be provided on both sides of the street alongside the cycle tracks at all times. Right-turn pockets would be provided at intersections that, along with a right-turn signal, would be necessary in order to separate right-turning vehicles from bicycles. Consistent with the TCDP, the north sidewalk of Folsom Street would be widened to about 25 feet, and the south sidewalk would be widened to about 15 feet.

Second Street Improvement Project. The San Francisco DPW, SFMTA, and the Planning Department have been working with community members on design improvements to Second Street between Market and King Streets. Bicycle Route 11 runs on Second Street, and in accordance with the *San Francisco Bicycle Plan*, the project would provide separated bicycle lanes along the entire length of Second Street, as well as a pedestrian refuge space at a number of locations. The project also includes roadway resurfacing, concrete curb reconstruction, the installation of ADA-compliant curb ramps, and upgrades to the traffic signal system. The preferred concept would reduce the number of travel lanes from two to one travel lanes in each direction, limit general parking, and relocate some commercial loading spaces and passenger loading/unloading zones. DPW estimates that construction on this project can begin by 2016.

San Francisco Bicycle Plan. As indicated in Section 2.6, the *San Francisco Bicycle Plan* includes planned short-term improvements to Bicycle Route 19 on Fifth Street. Fifth Street improvements include the construction of Class II bicycle lanes and Class III bicycle routes in both directions between Market and Townsend Streets. Similar to the ongoing Second Street Improvement Project described above, Bicycle Plan improvements on Fifth Street would reduce the number of travel lanes and prohibit northbound and southbound left turns, as well as implement other minor changes to lane geometry and on-street parking.

Transit Center District Plan. Adopted in summer 2012, the Transit Center District Plan (TCDP) builds on the City's 1985 Downtown Plan to create new land use, urban form, building design, and public realm improvements in and around the new Transbay Transit Center that is currently under

construction. The TCDP increases the zoned capacity of the area, roughly bounded by Steuart Street to the east, Folsom Street to the south, Annie Street/Kaplan Lane (just east of Third Street) to the west, and Market Street to the north. In rezoning, the TCDP includes changes to the transportation network, including conversions of one-way streets to two-way traffic (i.e., Howard and Folsom Streets), reductions in travel lanes, provision of new transit-only lanes, sidewalk widening, bulb-out installations, creation of new multi-use paths, and other improvements.

The TCDP plan area overlaps with the northeastern corner of the Central SoMa Plan. The area of overlap is in the C-3 (downtown) zoning district and comprises the southeastern corner of the Financial District. The Central SoMa Plan would build on the policy foundation of sustainability within the Plan area that was established in the TCDP, augmenting policies on building performance, district water, and district energy. The Central SoMa Plan does not propose to change the adopted land use or development controls of the TCDP, but would modify the street network proposal for Folsom Street between The Embarcadero and Second Street as identified in the TCDP to be consistent with the Central SoMa Plan's proposed street network changes.

Transit Effectiveness Project. The Transit Effectiveness Project (TEP) anticipates changes to routes in the vicinity of the proposed project. The year 2040 Cumulative analysis assumes changes to the capacity of the lines as identified by route changes and headway changes indicated within the recommended TEP. The following changes are proposed by the TEP for routes in the study area.

- Minor frequency changes on the F Market & Wharves, J Church, K Ingleside, L Taraval, M Ocean View, and N Judah.
- The 8AX/BX Bayshore Express's frequencies will increase during the peak periods.
- The 10 Townsend route will be rerouted, with a new alignment through Mission Bay and Potrero Hill. The 10 Townsend will be renamed to the 10 Sansome.
- A new 11 Downtown Connector will serve SoMa and North Beach, and will run on Harrison and Folsom streets in the project vicinity.

- The 12 Folsom-Pacific will be discontinued (and its route replaced in the project vicinity by the new 11 Downtown Connector).
- The 14X Mission Express will have increased service frequency during the peak periods.
- The downtown terminus of the 16X Noriega Express will be extended from Fourth Street to Market and Spear streets.
- The 30 Stockton will provide service with articulated buses to reduce crowding and improve reliability. The 30X Stockton Express will have increased frequencies.

In the vicinity of the project site, the TEP also includes two alternatives for a Travel Time Reduction Proposal (TTRP) along Mission Street. If implemented, the TTRP Moderate Alternative will extend the existing transit-only lane hours of 4:00 to 6:00 p.m. in both directions and 7:00 to 9:00 a.m. in the inbound direction to full-time for the segment of Mission Street between Fourth and Eleventh Streets. In addition, the existing 7:00 a.m. to 6:00 p.m. hours of the Mission Street transit-only lanes between Fourth and Main Streets in the outbound direction and between Fourth and Beale Streets in the inbound direction would be extended to full-time. If the TEP TTRP Expanded Alternative is implemented instead of the TTRP Moderate Alternative, it will relocate the existing side-running transit-only lanes between Fifth and First Streets in the outbound direction and between Sixth and First Streets in the inbound direction, so that they become center-running transit-only lanes, and transition the outbound transit-only lane back to its existing curbside configuration and rescind the inbound transit-only lane from Seventh to Sixth Streets.

Cumulative Traffic and Transit Demand. Future 2040 Cumulative traffic and transit demand projections were estimated based on cumulative development and growth identified by the San Francisco County Transportation Authority travel demand model (SF-CHAMP).

Traffic. Future 2040 Cumulative traffic volumes were estimated based on cumulative development and growth identified by SF-CHAMP, using model output that represents Existing conditions and model output for 2040 Cumulative conditions. The 2040 Cumulative traffic volumes take into account cumulative development projects in the project vicinity, such as the Moscone Center Expansion

Project, the 706 Mission Street Project, and the 250 Fourth Street Project and others listed above, as well as the additional vehicle-trips generated by the proposed project. The 2040 Cumulative traffic impact analysis takes into consideration implementation of the Central SoMa Howard/Folsom One-Way Option circulation changes, which would remove mixed-flow travel lanes on Howard and Folsom Streets.

The 2040 Cumulative conditions assume implementation of the Howard/Folsom One-Way Option, where both streets would retain a one-way configuration (except Folsom Street east of Second Street which would retain its existing two-way operation). Currently, this section of Howard Street has four westbound travel lanes (three west of Sixth Street), a westbound bicycle lane, parallel parking along the north and south curbs, and 12-foot wide sidewalks. West of Second Street, Folsom Street has four eastbound travel lanes, an eastbound bicycle lane, parallel parking along the north and south curbs, and 10-foot wide sidewalks. Folsom Street east of Second Street is currently temporarily configured with a westbound transit lane to accommodate regional transit between the Temporary Transbay Terminal and the Bay Bridge. The current configuration changes block to block, but generally has two eastbound travel lanes and one transit-only westbound travel lane. With implementation of the Central SoMa roadway network changes, some drivers would be expected to change routes, or divert, from Howard and Folsom streets to parallel streets due to the reduction in overall travel lane capacity, as well as the reduction of left-turn opportunities from these streets.

Transit. The 2040 Cumulative transit screenline analysis accounts for ridership and/or capacity changes associated with the TEP, the Central Subway Project (which is scheduled to open in 2019), the new Transbay Transit Center, the electrification of Caltrain, and expanded Water Emergency Transportation Authority ferry service.

PROJECT-LEVEL IMPACT EVALUATION

Traffic Impacts

Impact TR-1: The Office Scheme or Residential Scheme would result in a significant impact at four study intersections that would operate at LOS E or LOS F, and contribute considerably to LOS E or LOS F conditions at one intersection under Existing plus Project conditions. (Significant and Unavoidable)

During the PM peak hour, the Office Scheme would generate 730 vehicle trips, and the Residential Scheme would generate 706 vehicle trips (see **Table IV.D-7**). However, because the predominant direction of travel for residential uses during the PM peak hour is inbound towards the project site, the Residential Scheme would generate 28 more inbound vehicle trips than the Office Scheme (note that the Office Scheme would generate 52 more vehicle trips than the Residential Scheme in the outbound direction). In order to analyze the maximum potential impact of the proposed project, the maximum inbound (306 vehicle trips with the Residential Scheme) and outbound (452 vehicle trips with the Office Scheme) vehicle trips were used for the traffic impact analysis at the study intersections, for a total of 758 project-generated vehicle trips during the PM peak hour.

As indicated above, the intersection LOS impact analysis for the weekday PM peak hour was based on 758 new project-generated vehicle trips (306 inbound and 452 outbound). During the PM peak hour, vehicle trips were assigned to the proposed project garage and the Fifth & Mission Garage, as follows:

- 31 inbound and 16 outbound vehicle trips were assigned to the garage driveway within Building M-2 on Minna Street. The assignment and intersection analysis assumes that, as part of the proposed project, left turns from Fifth Street northbound onto Minna Street westbound would not be permitted.
- 51 inbound and 127 outbound vehicle trips were assigned to the garage driveway within Building N-1 on Minna Street. The assignment and analysis assumes that, as part of the proposed project, left turns from Fifth Street northbound onto Minna Street westbound would not be permitted.

- 60 inbound and 127 outbound vehicle trips were assigned to the garage driveway within Building H-1 on Howard Street.
- 9 inbound and 19 outbound vehicle trips were assigned to the Fifth & Mission Garage via the Mission Street entrance/exits.
- 155 inbound and 163 outbound vehicle trips were assigned to the Fifth & Mission Garage via the Minna Street entrance/exits.

Table IV.D-11 presents the Existing plus Project intersection levels of service for the weekday PM peak hour. In general, the addition of the 758 vehicle trips during the weekday PM peak hour would result in increases in the average delay per vehicle at the study intersections.

- Weekday PM peak hour intersection operating conditions would worsen from LOS D to LOS E or LOS F at two study intersections (Fourth/Howard and Sixth/Folsom Streets).
- Weekday PM peak hour intersection operating conditions would worsen from LOS E to LOS F at one study intersection (Sixth/Brannan Streets).
- Weekday PM peak hour intersection operating conditions and would continue to operate at the same LOS E or LOS F conditions as under Existing conditions at eight study intersections (Fourth/Market/Stockton, Fourth/Folsom, Fifth/Market, Fifth/Natoma, Fifth/Harrison, Fifth/Bryant, Sixth/Natoma, and Sixth/Bryant Streets).
- At the currently unsignalized intersection of Sixth/Minna Streets, the westbound approach currently operates at LOS F conditions, and the westbound approach would continue to operate at LOS F conditions with the proposed project. However, with implementation of the planned signal at this location (SFMTA's construction bidding process currently underway, and signal will be operational by the end of 2014), the intersection would operate at LOS C conditions during the PM peak hour.
- With implementation of the proposed project, nine study intersections would continue to operate at LOS D or better during the weekday PM peak hour.

At the study intersections of Fourth/Howard, Sixth/Folsom and Sixth/Brannan Streets, the worsening of intersection LOS conditions from LOS D to LOS E or LOS F, and from LOS E to LOS F would be considered a significant impact at these intersections.

Table IV.D-11: Intersection Level of Service – Existing Plus Project Conditions, Weekday PM Peak Hour

Intersection	Existing		Existing Plus Project	
	Delay ^a	LOS ^b	Delay	LOS
1. Fourth/Market/Stockton	56.1	E	64.6	E
2. Fourth/Mission	28.1	C	36.5	D
3. Fourth/Howard	52.5	D	74.8	E
4. Fourth/Folsom	> 80 (1.09)	F	> 80 (1.12)	F
5. Fifth/Market	55.9	E	56.8	E
6. Fifth/Mission	15.1	B	15.5	B
7. Fifth/Minna ^c	2.5 (sb)	A	3.0 (sb)	A
8. Fifth/Natoma ^c	38.2 (eb)	E	40.9 (eb)	E
9. Fifth/Howard ^e	15.1	B	17.5	B
10. Fifth/Folsom	27.2	C	46.5	D
11. Fifth/Harrison	58.7	E	60.7	E
12. Fifth/Bryant	> 80 (1.25)	F	> 80 (1.28)	F
13. Sixth/Market	44.6	D	45.3	D
14. Sixth/Mission	32.3	C	53.4	D
15. Sixth/Minna ^c	> 50 (wb)	F	> 50 (wb)/[22.0]	F/[C]
16. Sixth/Natoma ^{c,d}	> 50 (eb)	F	> 50 (eb)	F
17. Sixth/Howard	35.5	D	45.8	D
18. Sixth/Folsom	43.3	D	> 80 (1.16)	F
19. Sixth/Harrison	31.6	C	44.6	D
20. Sixth/Bryant	> 80 (1.43)	F	> 80 (1.47)	F
21. Sixth/Brannan	74.4	E	> 80 (1.14)	F

^a Delay presented in seconds per vehicle. Intersections operating at LOS E or LOS F highlighted in **bold**.

^b Shaded = project impact.

^c Intersection stop sign-controlled. Delay and LOS presented for the approach with the highest delay.

^d Contracting for installation of planned signal at the intersection of Sixth/Minna Streets is underway, and planned to be operational by the end of 2014. Average vehicle delay and LOS for Existing plus Project conditions with signalization presented in [brackets]. With signalization, the intersection would operate at LOS C conditions, and therefore, traffic impacts at this intersection would be considered less than significant.

^e Existing and Existing plus Project intersection LOS analyses were also conducted at the intersection of Fifth/Howard Streets for AM peak hour conditions. Under Existing conditions, during the AM peak hour, the intersection of Fifth/Howard Streets currently operates at LOS B conditions with an average vehicle delay of 15.3 seconds per vehicle, and under Existing plus Project conditions the average vehicle delay would increase to 16.5 seconds per vehicle and the intersection would operate at LOS B conditions.

Source: *5M Project Transportation Impact Study*, October 2014.

At the eight intersections currently operating at LOS E or LOS F under Existing conditions and that would continue to operate at the same LOS under Existing plus Project conditions, the proposed project's vehicle trips were reviewed to determine whether the project's contribution to the intersection's overall LOS E or LOS F operating conditions would be considerable. The project's contributions to the poorly operating critical movements (i.e., the critical movements operating at LOS E or LOS F)¹⁶ would be more than 5 percent at the intersection of Sixth/Bryant Streets, and therefore the contribution of the proposed project to the overall intersection LOS F conditions at this intersection would be considered considerable, and the proposed project's impact at this intersection would be considered a significant impact. Detailed calculations and percent contributions to critical movements operating at LOS E or LOS F conditions are included in the project's TIS.

Each of the four intersections where the proposed project would result significant impacts (i.e., at the intersections of Fourth/Howard, Sixth/Folsom, Sixth/Brannan, and Sixth/Bryant Streets) were reviewed to determine if mitigation measures could reduce the impact to less-than-significant levels or lessen the severity of the project's contribution to significant impacts. A detailed discussion of the feasibility of mitigation measures for each intersection where the project would result in a significant impact is provided in the project TIS. Overall, no feasible mitigation measures were found to mitigate significant impacts for the affected intersections. Generally, additional travel lane capacity would be needed on one or more approaches to the intersection in order to mitigate the LOS E or LOS F intersection operating conditions. The provision of additional travel lane capacity would typically require narrowing of the sidewalks to substandard widths and/or removal of bicycle lanes. These

¹⁶ The critical movement, with respect to an intersection analysis, is the movement or lane for a given signal phase (for example, northbound/southbound versus eastbound/westbound) that requires the most green time, and is determined for each phase based on flow ratios calculated using the HCM2000 intersection operations methodology. The movement or lane with the highest flow ratio for each phase is the critical movement. The critical movements are determined in the quantitative calculations conducted for the study intersections, taking into consideration the available geometric conditions (for example, number of lanes), signalization conditions (for example, cycle length, green times), and traffic conditions (for example, traffic volumes, pedestrian flows, heavy vehicle percentages). The critical movements, using the HCM2000 methodology, were identified by the Synchro intersection analysis software/traffic model developed for the analysis. Poorly operating critical movements are those operating at LOS E or LOS F conditions

actions would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's Transit First Policy because they would remove space dedicated to pedestrians and bicyclists. Additional improvements, such as changes to the signal timing cycle length and/or green time allocations would not reduce significant impacts to less-than-significant levels. Thus, the identified significant impacts at the intersections of Fourth/Howard, Sixth/Folsom, Sixth/Brannan, and Sixth/Bryant Streets under Existing plus Project conditions would remain significant and unavoidable.

Impact TR-2: The Office Scheme or Residential Scheme would have less-than-significant impacts at 17 study intersections under Existing plus Project conditions. (Less Than Significant)

With implementation of the proposed project, the following intersections would operate at LOS D or better during the PM peak hour, and therefore, the proposed project traffic impacts at these locations would be less than significant.

- Fourth/Mission
- Fifth/Mission
- Fifth/Minna
- Fifth/Howard
- Fifth/Folsom
- Sixth/Market
- Sixth/Mission
- Sixth/Minna
- Sixth/Howard
- Sixth/Harrison

In addition, as indicated in Impact TR-1 above, at intersections operating at LOS E or LOS F under Existing and Existing plus Project conditions, the proposed project's vehicle trips were reviewed to determine whether the project's contribution to the intersection's overall LOS E or LOS F operating conditions would be considerable. Detailed calculations and percent contributions to critical movements operating at LOS E or LOS F conditions are included in the project's TIS. The project's contributions to the poorly operating critical movements would be less than 5 percent at the seven study intersections, and therefore the contribution of the proposed project to the overall intersection LOS E or LOS F conditions at these seven intersections would not be considered considerable. Therefore, the proposed project's traffic impacts at the following seven intersections would be less than significant:

- Fourth/Market/Stockton
- Fourth/Folsom
- Fifth/Market
- Fifth/Natoma
- Fifth/Harrison
- Fifth/Bryant
- Sixth/Natoma

For these reasons, the proposed project's traffic impacts at these 17 study intersections would be less than significant.

Impact TR-3: The garage operations of the Office Scheme or Residential Scheme would not result in substantial conflicts that would adversely affect traffic, transit, bicycle, and pedestrian operations. (Less Than Significant)

The proposed project's parking garage operations were reviewed for AM peak hour conditions when the predominant direction of project travel demand for the office uses would be inbound into the site, to determine whether queues associated with vehicle access into the garage would spill back onto the sidewalk and adjacent vehicle travel and bicycle lanes, thereby increasing the potential for conflicts between vehicles, transit, bicyclists and pedestrians on Minna and Howard Streets. During the PM peak hour the majority of vehicles generated by the proposed land uses would be exiting the garage, and therefore queues associated with merge into the travel lanes would be contained within the garage, and would not affect transit, bicycle and vehicle operations on Minna or Howard Streets. Therefore, the AM peak hour conditions were assessed for garage operations.

During the AM peak hour, the Office Scheme would generate 282 inbound and 128 outbound vehicle trips, of which 262 inbound vehicle trips would be destined to the project site (the remaining 20 vehicle trips associated with the retail and restaurant uses would be destined to the Fifth & Mission Garage). Of the 262 inbound AM peak hour vehicle trips, eight vehicle trips would be destined to the driveway on Minna Street in Building M-2 (with a ramp length of 116 feet), 131 vehicle trips would be destined to the driveway on Minna Street in Building N-1 (with a ramp length of 105 feet), and 123 vehicle trips would be destined to the driveway on Howard Street in Building H-1 (with a ramp length of 98 feet).

A queuing analysis was conducted to determine whether the vehicle trips vehicles entering the garage at the various driveways would queue out into the adjacent travel lanes on Minna and Howard Streets. Based on the maximum AM peak hour vehicle inbound demand of 131 vehicles, the 95th percentile queue would be four vehicles (a distance of about 80 feet).¹⁷ The maximum queue would therefore be accommodated within all of the proposed project driveways, and would not spill back onto the sidewalk or adjacent travel lanes. Therefore, the impact of spillover into the adjacent travel lanes during the AM peak hour from the garage operations would be less than significant.

Improvement Measure I-TR-A: Monitoring and Abatement of Queues

As an improvement measure to reduce the potential for queuing of vehicles accessing the project site, it would be the responsibility of the owner/operator of the garage to ensure that recurring vehicle queues do not occur on Minna or Howard Streets adjacent to the site. A vehicle queue is defined as one or more vehicles (destined to the parking facility) blocking any portion of the sidewalk or travel lanes for a consecutive period of three minutes or longer on a daily and/or weekly basis.

If the Planning Director, or his or her designee, suspects that a recurring queue is present, the Planning Department would notify the project sponsor in writing. Upon request, the owner/operator would hire a qualified transportation consultant to evaluate the conditions at the site for no less than seven days. The consultant would prepare a monitoring report to be submitted to the Planning Department for review. If the Planning Department determines that a recurring queue does exist, the facility owner/operator of the garage would have 90 days from the date of the written determination to abate the queue.

¹⁷ The 95th percentile queue is the length of queue that has a probability of 5 percent or less of being exceeded during the analysis hour.

Improvement Measure I-TR-A would further reduce the magnitude of the proposed project's less-than-significant traffic impact related to garage operations, and would not result in any secondary transportation-related impacts.

Transit Impacts

Impact TR-4: The Office Scheme or Residential Scheme would not result in a substantial increase in transit demand that could not be accommodated by adjacent Muni transit capacity; nor would it cause a substantial increase in delays or costs such that significant adverse impacts to Muni transit service could occur. (Less Than Significant)

Transit Screenlines. Because the number of new PM peak hour transit trips generated with the Office Scheme (1,465 transit trips) would be more than the number generated by the Residential Scheme (1,441 transit trips), the transit screenline analysis was conducted based on the Office Scheme. During the weekday PM peak hour, the proposed project would generate 1,465 new transit trips (529 inbound and 936 outbound). These new transit trips would utilize the nearby Muni lines and regional transit lines, and may include transfers to other Muni bus and light rail lines, or other regional transit providers. Based on the location of the project site and the anticipated origin/destination of the new employees and visitors to the office, retail, restaurant and residential uses, the transit trips were assigned to Muni and the various regional transit operators. Based on the trip distribution patterns, it was estimated that out of the 936 outbound transit trips, about 511 would cross the Muni screenlines, 327 would cross the regional screenlines, and the remaining 98 would not cross any screenlines (i.e., would travel within the downtown area).

The analysis of Muni screenlines assesses the effect of project-generated transit-trips on transit conditions in the outbound direction during the weekday PM peak hour. Based on the origins/destinations of the transit trips generated by the proposed project, the outbound transit trips within San Francisco were assigned to the four screenlines and the sub-corridors within each screenline. As noted above, some transit trips that would travel within Superdistrict 1 would remain in the downtown area (e.g., trips to the Ferry Building) and therefore, would not cross one of the

screenlines. As such, not all outbound Muni trips generated by the proposed project appear in the screenline analysis. For analysis purposes, half of the Superdistrict 1 trips were estimated to remain in the downtown area and the out-of-region trips were added to the Superdistrict 1 trips, assuming that a portion of those trips would be made on Muni.

Table IV.D-12 presents the Muni screenline analysis for the Existing plus Project conditions for weekday PM peak hour conditions. Overall, the addition of the project-generated riders to the four screenlines would not substantially increase the peak hour capacity utilization. Capacity utilization for all screenlines and corridors would remain similar to those under Existing conditions, and below the capacity utilization standard of 85 percent.

Table IV.D-12: Muni Screenline Analysis – Existing Plus Project Conditions, Weekday PM Peak Hour

Screenline/Corridor	Existing Ridership	Project Trips	Existing Plus Project Ridership	Capacity	Capacity Utilization
Northeast					
Kearny/Stockton	2,158	78	2,236	3,291	67.9%
Other	570	20	590	1,078	54.8%
Subtotal	2,728	98	2,826	4,369	64.7%
Northwest					
Geary	1,814	51	1,865	2,528	73.8%
California	1,366	38	1,404	1,686	83.3%
Sutter/Clement	470	13	483	630	76.7%
Fulton/Hayes	965	27	992	1,176	84.4%
Balboa	637	18	655	929	70.5%
Subtotal	5,252	148	5,400	6,949	77.7%
Southeast					
Third	550	21	571	714	80.0%
Mission	1,529	58	1,587	2,789	56.9%
San Bruno/Bayshore	1,320	50	1,370	2,134	64.2%
Other	1,034	39	1,073	1,712	62.7%
Subtotal	4,433	168	4,601	7,349	62.6%
Southwest					
Subway	4,747	75	4,822	6,294	76.6%
Haight/Noriega	1,105	17	1,122	1,651	68.0%
Other	276	4	280	700	40.1%
Subtotal	6,128	97	6,255	8,645	72.0%
Total All Screenlines	18,541	511	19,052	27,312	69.8%

Source: 5M Project Transportation Impact Study, October 2014.

Transit Delay. Table IV.D-13 presents the results of the transit delay analysis for PM peak hour conditions. The proposed project would result in increases in travel time on the local and regional transit routes in the immediate vicinity of the project site, and increases would range from 4 seconds to about 2 minutes. However, in all instances the increase would be less than half of the existing headways, and therefore project-related transit delays resulting from congestion on study area roadways and passenger loading delays associated with increased ridership on these routes during the PM peak hour would be less than significant.

Table IV.D-13: Transit Delay Analysis – Existing Plus Project Conditions, Weekday PM Peak Hour

Transit Operator/Route	Headway (min:sec)	Northbound/Eastbound		Southbound/Westbound	
		Travel Time Increases (min:sec)	Delay as Percent of Headway	Travel Time Increases (min:sec)	Delay as Percent of Headway
Muni					
14 Mission	7:30	0:55	12%	1:36	21%
14L Mission Limited	9:00	1:07	12%	1:52	21%
14X Mission Express	8:00	0:15	3%	1:36	20%
27 Bryant	15:00	0:09	1%	0:34	4%
Golden Gate Transit	15:00	1:27	10%	1:48	12%
SamTrans	30:00	0:19	1%	0:04	0%

^a Includes eastbound/westbound routes on Mission Street for Muni (14 Mission, 14L Mission Limited, and 14X Mission Express), Golden Gate Transit, and SamTrans, as well as northbound/southbound 27 Bryant route on Fifth Street.

Source: *5M Project Transportation Impact Study*, October 2014.

Project Driveway Impacts on Transit Operations. As described in Impact TR-3, above, the queuing analysis conducted for the proposed project access driveways during the AM peak hour (when the predominant direction of vehicle trips would be accessing the site) indicates that the vehicle queues would be accommodated within the project site and would not spill back onto the sidewalk or travel lanes on Minna or Howard Streets, and would therefore not affect Muni bus operations on Fifth Street. Therefore, the impact of the proposed project driveways on Muni operations would be less than significant.

It should be noted that the office, retail, and restaurant uses would be subject to the Transit Impact Development Fee (TIDF). The TIDF attempts to recover the cost of carrying additional riders generated by new development by obtaining fees on a square footage basis. TIDF funds may be used to increase revenue service hours reasonably necessary to mitigate the impacts of non-residential development on public transit.

Currently Muni electric trolley coaches operate on Mission Street. Support poles for the overhead wires are located on Mission Street, adjacent to the project site and there are also eyebolts attached to the existing Chronicle Building. It is anticipated that these eyebolts would remain with the renovation of the Chronicle Building.

Because the proposed project would not substantially affect the capacity utilization of the local transit lines, and would not affect the operations of the adjacent and nearby Muni bus stops, or delay transit, impacts of the proposed project on transit operations would be less than significant.

Impact TR-5: The Office Scheme or Residential Scheme would not result in a substantial increase in transit demand that could not be accommodated by regional transit capacity; nor would it cause a substantial increase in delays or costs such that significant adverse impacts to regional transit service could occur. (Less Than Significant)

Similar to the Muni screenline analysis presented in Impact TR-4, the analysis of regional transit screenlines assess the effect of project-generated transit-trips on transit conditions in the outbound direction during the weekday PM peak hour. Based on the origins/destinations of the transit trips generated by the proposed project, the 327 outbound regional transit trips were assigned to the three regional transit screenlines. It was estimated that during the weekday PM peak hour there would be 229 transit trips destined to the East Bay, 35 transit trips to the North Bay, and 63 transit trips to the South Bay. **Table IV.D-14** presents the Existing plus Project screenline analysis for the regional transit carriers. In general, the addition of the 327 project-related passengers would not have a substantial effect on the regional transit providers during the weekday PM peak hour, as the capacity utilization for all

screenlines would remain similar to those under Existing conditions. In addition, the capacity utilization for all regional transit providers would be under their capacity utilization standards of 100 percent.

Table IV.D-14: Regional Transit Screenline Analysis – Existing Plus Project Conditions, Weekday PM Peak Hour

Screenline/Operator	Existing Ridership	Project Trips	Existing Plus Project Ridership	Capacity	Capacity Utilization
East Bay					
BART	19,716	198	19,914	22,050	90.3%
AC Transit	2,256	23	2,279	3,926	58.0%
Ferries	805	8	813	1,615	50.3%
Subtotal	22,777	229	23,006	27,591	83.4%
North Bay					
GGT buses	1,384	21	1,405	2,817	49.9%
GGT ferries	968	14	982	1,959	50.1%
Subtotal	2,352	35	2,387	4,776	50.0%
South Bay					
BART	10,682	51	10,733	14,910	72.0%
Caltrain	2,377	12	2,389	3,100	77.1%
SamTrans	141	1	142	320	44.3%
Subtotal	13,200	63	13,263	18,330	72.4%
Total All Screenlines	38,329	327	38,656	50,697	76.2%

Source: 5M Project Transportation Impact Study, October 2014.

As indicated in **Table IV.D-13**, the proposed project would result in minimal increases in travel time on the regional routes in the immediate vicinity of the project site; however, these increases would not be substantial and would not affect regional transit routes.

Because the proposed project would not substantially affect the capacity utilization of the regional transit lines, and would not affect the operations of the nearby regional stops or routes, or delay transit, impacts of the proposed project on transit operations would be less than significant.

Bicycle Impacts

Impact TR-6: The Office Scheme or Residential Scheme would not result in potentially hazardous conditions for bicyclists, or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas. (Less Than Significant)

Proposed Project Supply. The supply of bicycle parking spaces would be consistent with the Planning Code requirements for the proposed uses. The Office Scheme would provide approximately 540 Class 1 bicycle parking spaces and 120 Class 2 bicycle racks, while the Residential Scheme would provide 591 Class 1 bicycle parking spaces and 97 Class 2 bicycle racks.¹⁸ Bicycle parking facilities would be located on the ground floor or first basement level of the garage, and would be located throughout the site in accordance with the Fifth and Mission SUD, including in plaza areas, building entries, and park space. In addition, both the Office Scheme and the Residential Scheme would include 14 showers and 28 lockers.

The below-grade bicycle parking spaces would be accessed via the garage driveway in Building N-1 on Minna Street. Bicyclists entering the garage would share the travel lane with vehicles, while exiting bicyclists would have a dedicated 5-foot wide bicycle lane on the ramp in order to be able to walk or bicycle slowly up the ramp (the ramp would contain two 11-foot wide lanes, plus a 5-foot wide bicycle lane, for a total ramp width of 27 feet).

Proposed Project Demand. The project site is within bicycling distance of office and retail buildings in downtown San Francisco and the Financial District and major transit hubs (Ferry Building, Transbay Terminal and Caltrain). During the weekday PM peak hour, it is anticipated that a portion

¹⁸ Per *San Francisco Planning Code Section 155.1, Bicycle Parking Requirement for City-owned and Leased Buildings*, Class 1 bicycle parking facilities are those that protect the entire bicycle and accessories against theft and inclement weather. Examples of Class 1 facilities include lockers, check-in facilities, monitored parking, restricted access parking, and personal storage. Class 2 bicycle racks permit the bicycle frame and one wheel to be locked to the rack (with one u-shaped lock), and provide support to bicycles without damage to the wheels, frame, or components.

of the walk/other trips generated by the new uses would be bicycle trips (i.e., a portion of the 1,580 walk/other trips for the Office Scheme and 1,652 walk/other trips for the Residential Scheme).

There are several bicycle routes nearby to the project site, with the closest routes on along Howard and Folsom Streets (Bicycle Route 30), on Fifth Street (Bicycle Route 19), on Seventh Street (Bicycle Route 23), and on Market Street (Bicycle Route 50). Although the proposed project would result in an increase in the number of vehicles in the vicinity of the project site, this increase would not be substantial enough to affect bicycle travel in the area. As described in Impact TR-3 above, the queuing analysis conducted for the proposed project access driveways during the AM peak hour indicates that the vehicle queues would be accommodated within the project site and would not spill back onto the sidewalk or onto the travel lane or bicycle lane on Howard Street, or onto Minna and Fifth Street sidewalks or travel lanes (the San Francisco Bicycle Plan includes bicycle lanes in both directions on Fifth Street).

The proposed project would not increase bicycle or vehicle traffic to a level that adversely affects bicycle facilities in the area, nor would the proposed project create a new hazard or substantially conflict with bicycling, or affect bicycle accessibility to the project site or adjoining areas. Thus, the proposed project's impacts to bicycle facilities and circulation would be less than significant.

Pedestrian Impacts

Impact TR-7: The Office Scheme or Residential Scheme would result in a significant impact at the east crosswalk and southeast corner of the intersection of Fifth/Mission Streets, but otherwise would not result in substantial overcrowding on public sidewalks, nor create potentially hazardous conditions for pedestrians, or otherwise substantially interfere with pedestrian accessibility to the site and adjoining areas. (Less Than Significant with Mitigation)

Proposed Improvements. The proposed project includes a number of pedestrian improvements, including:

- Closing Mary Street between Minna and Mission Streets to vehicular traffic and providing a 10-foot-wide sidewalk on the west side of the street.
- Realignment of Mary Street between Minna and Natoma Streets to the west to provide for a pedestrian-only open space area between Building N-2 and Building N-3. Ten-foot-wide sidewalks would be provided on either side of this segment of Mary Street.
- Widening both sides of Natoma Street between Fifth and Mary streets from 6 feet wide on the north side and 7-feet 6-inches wide on the south side to 8-feet wide on both sides of the street, west of the proposed egress driveway for trucks and service vehicles exiting Building H-1.
- Widening the west side of Fifth Street between Mission and Howard Streets from 10 feet to 18 feet. The proposed widening would include three recessed commercial loading bays approximately 60 feet in length. The proposed widening to 18 feet would exceed the Planning Department's minimum standard for sidewalks per the *Better Streets Plan*.

Table IV.D-15 presents a summary comparison of the existing sidewalk widths adjacent to the project site to the *Better Streets Plan* minimum and recommended requirements, and to the proposed project proposed widths.

As indicated in **Table IV.D-15**, with the proposed project improvements, the sidewalk widths adjacent to the project site would meet or exceed the minimum sidewalk width requirements of the *Better Streets Plan* and *Downtown Streetscape Plan* (applicable only to Mission and Fifth Streets), but would meet the *Better Streets Plan* recommended sidewalk widths on Mission, Fifth, Minna, Natoma Streets, as well as on Mary Street between Natoma and Mission streets.

Table IV.D-15: Comparison of Better Streets Plan Sidewalk Width Requirements to Existing and Proposed Project Sidewalk Dimensions

Street	Better Streets Plan Requirements ^a		Existing	Proposed Project
	Minimum	Recommended		
Mission Street ^b	10'	12'	15'	15'
Howard Street ^{b,c}	12'	15'	11'6"	12'
Fifth Street	12'	15'	10'	18'
Minna Street	6'	9'	9' N/11' S	9' N/11' S
Natoma Street ^d	6'	9'	6' N/7'6" S	8' N/8' S
Mary St - Howard to Natoma	6'	9'	6'	6'
Mary St - Natoma to Minna	6'	9'	4'6"	10'
Mary St - Minna to Mission ^e	6'	9'	0'	10'

- ^a Better Streets Plan minimum and recommended requirements for a commercial street and an alley.
- ^b Mission and Howard streets are within the Downtown Streetscape Plan area, and both streets currently meet the required sidewalk width of 10 feet.
- ^c On Howard Street, adjacent to the project site, the proposed sidewalk width of 12 feet would be accommodated by recessing Building H-1 by six inches.
- ^d On Natoma Street, adjacent to the project site, the proposed sidewalk width of 8 feet would be for the segment of Natoma Street west of the proposed egress driveway for trucks and service vehicles exiting Building H-1 (i.e., between Fifth Street and the proposed egress driveway, the sidewalk width would remain 7-feet 6-inches).
- ^e With the proposed project, Mary Street between Minna and Mission streets would be converted to a pedestrian-only alley that would be closed to vehicular and bicycle traffic.

N = north; S = south

Source: 5M Project Transportation Impact Study, October 2014.

Demand. Pedestrian trips generated by the proposed project would include walk trips to and from the project site, and walk trips to and from the local and regional transit operators and the Fifth & Mission Garage. Pedestrian volumes adjacent to the project site on Mission, Fifth, and Howard Streets are currently moderate to high, and low on Minna, Natoma, and Mary Streets. The number of midday and PM peak hour pedestrian trips generated by the Office Scheme (3,242 midday pedestrian trips and 3,654 PM pedestrian trips) and Residential Scheme (3,156 midday pedestrian trips and 3,702 PM pedestrian trips) would be similar. The Office Scheme would generate slightly more midday peak hour trips than the Residential Scheme (i.e., 86 more pedestrian trips) and slightly fewer PM peak hour trips than the Residential Scheme (i.e., 48 fewer pedestrian trips). The pedestrian analysis was conducted based on the Office Scheme, and the difference of 48 pedestrian trips during the PM peak hour would not materially change the pedestrian impact analysis.

Pedestrians would enter and exit the proposed project via the residential and commercial lobbies, and ground floor retail, on Mission, Fifth, and Howard Streets, and walk to and from the Fifth & Mission Garage, and would be dispersed throughout the study area, depending upon the origin/destination of each trip (see **Figure II-20** in Chapter II, Project Description, for the proposed pedestrian circulation plan). It is anticipated that a majority of the new pedestrian trips would be to and from Market Street, and to Union Square via Fifth Street to the north and Mission Street to the east, and with fewer new project trips on Howard Street and Fifth Street to the south. The proposed project also includes programming elements such as arts and cultural events, other public events, and collaborations among businesses and organizations that use the commercial space. In addition to existing Off the Grid food truck events, which currently occur on the site twice a week, events on the project site could include outdoor film screenings, night markets, food events, streets fairs or festivals, lecture series, and theater performances during weekdays and weekends. Typical event, occurring up to an estimated three times a month, could have attendance of approximately 500 to 750 people, while larger-scale events, occurring up to approximately twice per year, could have attendance up to 5,000 people. These events would be internal to the project site and would not occur on the sidewalks on Mission, Fifth, or Howard Streets. Events occurring during the weekday daytime hours, such as food events, may attract additional walk trips to the project site, and during these temporary and occasional events, conditions may be slightly more congested than those presented in the Existing plus Project analysis below.

Tables IV.D-16 and **IV.D-17** present the results of the pedestrian analyses for Existing plus Project conditions, for the weekday midday and PM peak hours, respectively. During the midday and PM peak hours, the addition of new pedestrian trips to the crosswalk and corners at the adjacent intersections of Fifth/Mission and Fifth/Howard Streets would increase pedestrian crowding at the study locations (e.g., resulting in LOS operating conditions worsening from LOS A to LOS C); however, at most study locations pedestrian conditions would continue to be acceptable, with pedestrian operating conditions at LOS D or better. The exceptions would be at the east crosswalk at the intersection of Fifth/Mission Streets (PM peak hour), and the southeast corner at the intersection of Fifth/Mission Streets (midday and PM peak hours), which would operate at LOS E or LOS F under Existing plus Project conditions.

Table IV.D-16: Pedestrian Level of Service – Existing Plus Project Conditions, Weekday Midday (12:00 to 1:00 p.m.) Peak Hour

Analysis Locations	Existing		Existing Plus Project	
	Measure of Effectiveness	LOS	Measure of Effectiveness	LOS
Sidewalks	ped/min/ft		ped/min/ft	
Mission Street	1.6	B	4.9	C
Fifth Street – North	2.5	B	7.9	D
Fifth Street – South	1.1	B	6.2	D
Howard Street	0.4	A	1.4	B
Fifth/Mission - Crosswalks	sq. ft/ped		sq. ft/ped	
North	85.7	A	31.0	C
South	66.9	A	31.6	C
East	34.7	C	16.5	D
West	20.0	D	20.5	D
Fifth/Mission - Corners	sq. ft/ped		sq. ft/ped	
Northwest	57.4	B	18.1	D
Northeast	59.8	B	25.0	C
Southwest	29.0	C	29.5	C
Southeast	10.6	E	0.3	F
Fifth/Howard - Crosswalks	sq. ft/ped		sq. ft/ped	
North	96.3	A	21.5	D
South	69.6	A	44.7	B
East	132.4	A	132.4	A
West	74.0	A	54.0	B
Fifth/Howard - Corners	sq. ft/ped		sq. ft/ped	
Northwest	24.6	C	46.4	B
Northeast	260.9	A	128.6	A
Southwest	38.0	C	30.2	C
Southeast	55.1	B	55.1	B

Notes:

Pedestrian conditions operating at LOS E or LOS F highlighted in **bold**.

Shaded indicates proposed project impact.

Source: *5M Project Transportation Impact Study*, October 2014.

Table IV.D-17: Pedestrian Level of Service – Existing Plus Project Conditions, Weekday PM (5:00 to 6:00 p.m.) Peak Hour

Analysis Locations	Existing		Existing Plus Project	
	Measure of Effectiveness	LOS	Measure of Effectiveness	LOS
Sidewalks	ped/min/ft		ped/min/ft	
Mission Street	1.6	B	5.4	C
Fifth Street – North	1.7	B	7.8	D
Fifth Street – South	1.5	B	4.6	C
Howard Street	0.7	B	1.8	B
Fifth/Mission - Crosswalks	sq. ft/ped		sq. ft/ped	
North	99.7	A	31.1	C
South	101.1	A	36.6	B
East	34.3	C	14.6	E
West	15.6	D	16.2	D
Fifth/Mission - Corners	sq. ft/ped		sq. ft/ped	
Northwest	52.5	B	15.9	D
Northeast	65.9	A	24.5	C
Southwest	30.6	C	27.2	C
Southeast	14.8	E	0.6	F
Fifth/Howard - Crosswalks	sq. ft/ped		sq. ft/ped	
North	77.8	A	18.4	D
South	75.6	A	45.1	B
East	84.7	A	84.7	A
West	53.3	B	40.6	B
Fifth/Howard - Corners	sq. ft/ped		sq. ft/ped	
Northwest	18.5	D	37.4	C
Northeast	205.2	A	97.6	A
Southwest	30.6	C	26.2	C
Southeast	46.3	B	46.3	B

Notes:

Pedestrian conditions operating at LOS E or LOS F highlighted in **bold**.

Shaded indicates proposed project impact.

Source: 5M Project Transportation Impact Study, October 2014.

With the addition of project-generated pedestrian trips to the sidewalks in the project vicinity, the existing LOS E conditions during the midday and PM peak hours at the southeast corner of the intersection of Fifth/Mission Streets (i.e., the corner adjacent to the Fifth & Mission Garage) would worsen to LOS F conditions during both the midday and PM peak hours, and conditions at the east crosswalk would worsen from LOS C to LOS E during the PM peak hour (during the midday peak

hour the east crosswalk would operate at LOS D conditions), and would be considered a significant pedestrian impact.

In the vicinity of project site there are senior pedestrian and pedestrians with disabilities with special safety considerations that affect their walking experience including reduction in vision, agility, balance, speed, concentration and strength, difficulties hearing vehicles approaching from behind, and reduced ability under low light/night conditions. The proposed project would improve pedestrian circulation adjacent to the project site which would improve pedestrian conditions for those pedestrians walking adjacent to the project site, including for seniors and persons with disabilities, by facilitating safe pedestrian circulation and crossings, by providing safe spaces for pedestrians, and by increasing pedestrian visibility to drivers (examples of project-related pedestrian improvements include widening of the Fifth Street sidewalk between Mission and Howard Streets, widening of the west crosswalk across Mission Street, and widening of the Howard Street sidewalk adjacent to the project site). With the proposed project, the number of pedestrians in the area would increase, and senior pedestrians and pedestrians with disabilities may be further challenged as they travel on crosswalks, sidewalks, and corners adjacent to the project site and on nearby streets. However, because the sidewalks, crosswalks, and pedestrian signal timing meet the required design standards within the *California Manual of Uniform Traffic Control Devices*¹⁹ and the *Americans with Disabilities Act Accessibility Guidelines*²⁰, and because with the addition of the new pedestrian trips and **Mitigation Measure M-TR-7**, the overall pedestrian conditions at the analysis locations would continue to be LOS D, the proposed project's pedestrian impacts would remain less than significant with mitigation.

¹⁹ California Department of Transportation, *California Manual of Uniform Traffic Control Devices*, 2012. Available online at www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd2012.htm.

²⁰United States Access Board, *ADA Accessibility Guidelines (ADAAG)*, September 2002. Available online at www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag (accessed on July 21, 2014).

Pedestrian Conflicts at Project Garage Driveways. The proposed project would include two driveways into the parking garage on Minna Street (one west of Fifth Street, and one west of Mary Street) and one driveway on Howard Street. Therefore, the number of vehicles crossing the sidewalks on Minna and Howard Streets would increase over Existing conditions. While this increase would be noticeable, it would not represent a substantial increase in conflicts with pedestrians, as vehicles exiting a garage are an expected occurrence in the project vicinity. In order to reduce the possibility of pedestrian-vehicle conflicts at project driveways, the Design for Development includes requirement for 10-foot sight triangles, with a vertical clearance of 15 feet, at all vehicular egress points. The sight triangle would ensure that visibility would be provided between drivers of outbound vehicles and pedestrians approaching the driveway from the right, as viewed by the outbound driver. Drivers would already have visibility of pedestrians approaching from the left because both project driveways would have dual-lane driveways, so provision of a sight triangle is only necessary on the right. This driveway design would provide visibility between outbound vehicle drivers and approaching pedestrians in both directions from within the garage opening, before the outbound vehicle begins to cross the property line; this would ensure that outbound vehicles do not block or strike approaching pedestrians. Furthermore, with this design, pedestrian warning buzzers and lights should not be required, although these warning features could be installed later if necessary.

As a mitigation measure to mitigate significant pedestrian impacts at the southeast corner and east crosswalk of the intersection of Fifth/Mission, the Fifth Street sidewalk could be widened between Mission and Minna Streets to increase the total space available for circulation and queuing at the intersection corner, and the crosswalk across Mission Street at this corner could be widened.

Mitigation Measure M-TR-7: Widen the east sidewalk on Fifth Street between Minna and Mission Streets and widen the east crosswalk at the intersection of Fifth/Mission Streets.

The project sponsor shall financially compensate the SFMTA for the cost of service to design and implement the following:

- A sidewalk extension of the east sidewalk on Fifth Street between Minna and Mission Streets by 10 to 15 feet.
- Restriping and widening of the east crosswalk at the intersection of Fifth/Mission Streets to 25 feet.
- Traffic and pedestrian signal upgrades at the intersection of Fifth/Mission Streets.
- Restriping of the Minna Street travel lanes between Fifth Street and the garage entrances to provide for additional vehicle queuing on Minna Street.
- New and more visible “MINNA STREET GARAGE ENTRANCE” and “GARAGE FULL” signs at the Fifth and Mission Garage.

The amount and schedule for payment and commitment shall be set forth in the Mitigation Monitoring and Reporting Program.

Sidewalk widening of a minimum of 10 to 15 feet on Fifth Street would improve corner operating conditions during the midday and PM peak hours from LOS F to LOS D conditions, and impacts would be reduced to less-than-significant levels. With implementation of the sidewalk widening of Fifth Street between Mission and Minna Streets, the east crosswalk could be widened to 25 feet to increase the total space available for pedestrians crossing the street. With widening of the crosswalk, the pedestrian operating conditions during both the midday and PM peak hours would improve to LOS C.

Sidewalk widening would require removal of the northbound right turn lane between Mission and Minna Streets, which would reduce the length of the queuing lane into the Mission Street entry into the Fifth and Mission Garage by about 170 feet, the distance between Mission and Minna Streets. The northbound curb lane on Fifth Street between Howard and Mission Streets has been used for queuing of vehicles accessing the garage during the peak holiday shopping season, particularly on days that coincide with events at the Moscone Center (e.g., the day after Thanksgiving and the International Auto show – in 2013 the auto show took place between November 28 and December 2). However, since implementation in 2013 of the Bay Area Bike Share station within the curb lane of Fifth Street at

Howard Street, the queuing into the garage during these peak garage demand periods in the segment of Fifth Street between Howard and Minna Streets occurs partially within one of the two northbound travel lanes (i.e., within the travel lane closest to the curb), while on the segment of Fifth Street between Minna and Mission Streets occurs within the right-turn-only lane.

During non-holiday shopping season days, the removal of the right-turn-only lane would require that right turns occur from the adjacent travel lane, which would increase vehicle delays on the northbound approach, however; during typical weekday PM peak hour conditions, with the shared through/right lane, the northbound approach would operate at LOS B, similar to Existing plus Project conditions, and traffic and transit impacts of the reconfiguration would be less than significant. With the removal of the right-turn-only lane, the existing bicycle conflicts between vehicles turning into the right-turn-only lane and bicyclists traveling northbound on Fifth Street between Minna and Mission Streets would be eliminated. However, the removal of the right-turn-only lane and associated increase in vehicle delays may result in bicyclists changing travel lanes to continue northbound on Fifth Street, which may result in a minor increase in vehicle-bicycle conflicts. The increased potential for conflicts between vehicles and bicyclists sharing the travel lane would not be to a level that would adversely affect bicycle travel on Fifth Street, or create a new hazard, and for these reasons impacts to bicyclists would be less than significant.

During the peak holiday shopping season queuing for access into the garage between Mission and Minna streets would occur on the adjacent travel lane, as it currently occurs on the segment of Fifth Street between Minna and Howard streets. The relocation of the queue from the existing right-turn-only lane to the adjacent travel lane may increase vehicle and transit delays on Fifth Street, however, vehicle and transit delays would not increase substantially over existing conditions for the following reasons:

- Vehicles accessing the garage on the segment of Fifth Street between Howard and Minna Streets currently queue within one of the two travel lanes, and the queue within this lane currently constrains vehicles accessing Fifth Street from Howard Street westbound and from Fifth Street south of Howard Street. Removal of the right-turn-only lane would

continue this queue for the segment of Fifth Street between Minna and Mission Streets, and would not substantially change the number of vehicle that could access Fifth Street from Howard Street westbound or Fifth Street south of Howard Street.

- In order to bypass the existing queue on the segment of Fifth Street between Howard and Minna Streets, Muni buses currently travel within the travel lane adjacent to the queue, and with the proposed reconfiguration would continue within the travel lane adjacent to the queue in the segment between Minna and Mission Streets.
- The mitigation measure includes restriping of Minna Street at the approach to the entrances of the garage, which would increase queuing capacity on Minna Street, and would encourage use of the Minna Street entrance for vehicles traveling on Fifth Street.
- Additional measures such as traffic and pedestrian signal upgrades at the intersection of Fifth/Mission Streets would optimize signal operations, and new and visible “MINNA STREET GARAGE ENTRANCE” and “GARAGE FULL” signs would encourage drivers to seek parking elsewhere rather than queue for access into the Fifth and Mission Garage.

The crosswalk and sidewalk widening identified in **Mitigation Measure M-TR-7** would reduce the proposed project impacts on pedestrians at the east crosswalk and southeast corner of the intersection of Fifth/Mission Streets to a less than significant level, and would not result in secondary impacts to traffic, transit, bicyclists or pedestrians, and therefore, proposed project impacts on pedestrians at this location would be less than significant with mitigation.

While the proposed project’s impact related to sidewalk conditions adjacent to the project site on Mission Street would be less than significant, **Improvement Measure I-TR-B**: Installation of Eyebolts, may be recommended for consideration by City decision-makers to reduce sidewalk clutter.

Improvement Measure I-TR-B: Installation of Eyebolts

As an improvement measure to reduce pole clutter and to support the overhead wire system on Mission Street, the project sponsor could review with SFMTA whether it would be appropriate to install eyebolts in the new buildings.

Improvement Measure I-TR-B would further reduce the proposed project's less-than-significant transit impacts related to sidewalk conditions adjacent to the project site, and would not result in any secondary transportation-related impacts.

Loading Impacts

Impact TR-8: The loading demand of the Office Scheme or Residential Scheme would be accommodated within the existing and proposed on-street and off-street loading spaces, and would not create potentially hazardous conditions or significant delays for traffic, transit, bicyclists or pedestrians. (Less Than Significant)

Loading Space Supply. The supply of loading facilities would be specified in the *Design for Development*. The proposed project would provide five at-grade and eight below-grade loading spaces, for a total of 13 off-street loading spaces located throughout the project site.

- One off-street loading space each would be provided within Building N-1 and Building N-2, with access from Minna Street. Each space would be 88 feet in length and 15 feet in width, with a vertical clearance of 14 feet. The loading spaces would be positioned diagonally, so that trucks would be able to back into the space from westbound Minna Street, and the curb cut for each loading spaces would be 25 feet in width.
- Three off-street loading space would be provided in the H-1 Building. Trucks would access the loading area via a shared driveway into the parking garage on Howard Street (with a driveway width of 30 feet), and would exit the loading area onto Natoma Street via a 20-foot wide driveway. The loading area would be 110 feet in length, and 47 feet in width, which would allow for trucks to maneuver within the loading area.

- Eight service vehicle loading spaces would be provided within the first below-grade level of the garage. Two of the service vehicle loading spaces would be located in the portion of the garage below Building N-2, and six service vehicle loading spaces would be provided in the portion of the garage below Building H-1. Each service vehicle loading space would be 8 feet by 20 feet. The first below-grade garage level would have a vertical clearance of 8 feet 2 inches. The service vehicle loading spaces would be accessed via the driveways on Minna and Howard Streets, which would have adequate clearance to accommodate service vehicles.

The *Design for Development* also includes requirements for sharing of on-site loading facilities, as well as management and scheduling of deliveries over a 12-hour period.

In addition to the 13 off-street loading spaces described above, the project sponsor would also request that the curb currently allocated to driveways and parking spaces be designated as commercial loading spaces and passenger loading/unloading zones. The proposed changes need to be approved at a public hearing through the SFMTA. In total, adjacent to the project site on Mission, Fifth, Howard, Minna and Natoma streets there would be 18 commercial loading spaces (four on Mission Street, nine on Fifth Street, three on Howard Street, and two on Minna Street), and three passenger loading/unloading zones (two on Mission Street and one on Howard Street). The proposed commercial loading spaces and passenger loading/unloading zones would result in the elimination of 31 existing standard metered parking spaces (three spaces on Mission Street, six spaces on Fifth Street, two spaces on Howard Street, six spaces on Minna Street, and 14 spaces on Natoma Street) and 16 motorcycle parking spaces.

- On Mission Street the project sponsor would request that the three existing metered parking spaces and existing driveway adjacent to the project site (a distance of about 110 feet) be designated as two metered commercial loading spaces and a passenger loading zone (i.e., adjacent to Building M-2). This would result in an elimination of three standard metered parking spaces. The two existing metered commercial loading spaces and

passenger loading/unloading zone to the west of the existing bus stop between Fifth and Mary Streets (adjacent to Building M-1) would remain.

- On Fifth Street, between Mission and Minna Streets, the proposed project would widen the sidewalk from 10 feet to 18 feet, and a recessed commercial loading bay, approximately 60 feet in length (accommodating up to three trucks) would be provided.
- On Fifth Street, between Minna and Natoma Streets, the proposed project would widen the sidewalk from 10 feet to 18 feet, and a recessed commercial loading bay, approximately 60 feet in length (accommodating up to three trucks) would be provided.
- On Fifth Street, between Natoma and Howard Streets, the proposed project would widen the sidewalk from 10 feet to 18 feet, and a recessed commercial loading bay, approximately 60 feet in length (accommodating up to three trucks) would be provided.
- On Howard Street, the project sponsor would request that two of the four existing standard metered parking spaces be designated as a passenger loading/unloading zone. This would result in an elimination of two standard metered parking spaces. The three existing metered commercial loading spaces between Fifth and Mary Streets (with one located adjacent to the project site) would remain.
- On Minna Street six one-hour parking spaces on the north side of Minna Street west of the existing Mary Street would be eliminated, and would be replaced by the Building M-2 driveway and two proposed commercial loading spaces adjacent to Building M-2.

Loading Demand. As indicated in **Table IV.D-9**, the proposed project would generate about 309 deliveries/service vehicle trips per day on weekdays, which would result in a demand for 13 loading spaces during the peak hour of loading activities, and 11 spaces during the average hour of loading activities.

The Office Scheme would generate more daily truck trips and would have a greater loading space demand than the Residential Scheme. The Office Scheme would generate about 278 truck trips per day, while the Residential Scheme would generate 228 truck trips per day. These daily truck trips

correspond to a demand during the peak hour of loading activities for 12 loading spaces for the Office Scheme, and 10 loading spaces for the Residential Scheme. This loading space demand assumes that on-site loading facilities would be shared, and deliveries would be managed and scheduled over a 12-hour period in order to ensure that use of on-site facilities would be maximized.

The majority of the loading demand would be accommodated within the five off-street truck loading spaces at street-level, and the eight service vehicle loading spaces within the first below-grade level of the proposed parking garage (total of 13 loading spaces). In addition, it is anticipated that the project loading demand would be accommodated within the existing and proposed on-street commercial loading spaces, and deliveries would be carted between the commercial loading spaces and the proposed project buildings. The request for the additional on-street commercial loading spaces (i.e., an increase from 10 to 18 commercial loading spaces) would be to facilitate delivery trips to the residential uses and the ground floor retail and restaurant uses that would not utilize the on-site loading facilities. Because on-street commercial loading spaces are shared among numerous establishments in the area, provision of a large number of commercial loading spaces would ensure that spaces are available to accommodate the loading demand in the vicinity of the ground-floor retail and restaurant uses, and residential lobbies, and that loading/unloading activities do not result in double parking within vehicular and transit lanes on Mission and Fifth Streets, or within the existing bicycle lane on Howard Street.

Truck Access into On-Site Loading Facilities. Trucks accessing the two on-site loading spaces within Building N-1 and Building N-2 would access Minna Street from southbound Fifth Street. Left turns from northbound Fifth Street onto westbound Minna Street would not be permitted with the proposed project. Trucks would pull in westbound onto Minna Street and back into the loading spaces, which are positioned diagonally to accommodate the truck turning maneuvers. Trucks leaving the loading spaces within Building N-1 and Building N-2 would continue on westbound Minna Street to Sixth Street.

Trucks accessing the three on-site loading spaces within Buildings H-1 and H-2 would access the loading pass-through from Howard Street westbound, and back into the loading spaces. Trucks leaving the loading spaces would turn right onto Natoma Street eastbound and continue right or left onto Fifth Street. As noted above, deliveries utilizing the on-site loading facilities would be managed and scheduled, and deliveries with large trucks would be scheduled to occur during the early morning hours when pedestrian volumes on Fifth Street are lower.

Passenger Loading/Unloading Activities. Passenger loading/unloading activities for the proposed uses would be accommodated within the existing passenger loading/unloading zones adjacent to the project site on Mission Street between Fifth and Mary Streets, which would be maintained as part of the proposed project, and within an additional proposed passenger loading/unloading zone on Mission Street adjacent to Building M-2, and within a new passenger loading/unloading zone on Howard Street. The passenger loading/unloading zones would need to be approved at a public hearing through the SFMTA.

Move-In and Move-out Activities. Residential move-in and move-out activities, and large furniture deliveries, are anticipated to occur within the proposed on-street commercial loading spaces on Mission Street and on Minna Street (west of Mary Street) adjacent to the Building M-2, and on Fifth Street adjacent to the Building N-1 and Building H-1. In addition, moving trucks 40 feet or less in length could be accommodated within the proposed on-site loading space in Building H-1. The proposed project includes scheduling and coordinating move-in and move-out operations through building management. Curb parking on Mission, Fifth, and Minna Streets for moving trucks and vans would need to be reserved through SFMTA.

Trash/Recycling/Compost Pick-up. The proposed project would contain trash and recycling chutes.²¹ All garbage and recycling facilities would be placed fully within the building and would not be visible from the public right-of-way. A trash and recycling storage areas would be located within each building, which would be accessed via Minna or Natoma Streets, or from within the off-street loading areas. Because the proposed project would provide off-street loading that would be managed, would utilize existing on-street commercial loading spaces and request new on-street commercial loading spaces, which, when combined, would accommodate the project-generated demand, loading impacts would be less than significant.

While the proposed project's impacts related to freight truck loading/unloading operations would be less than significant, **Improvement Measure I-TR-C: Driveway and Loading Operations Plan**, may be recommended for consideration by City decision makers to further reduce the proposed project's less-than-significant impacts related to potential conflicts between project-generated loading/unloading activities and pedestrians, transit, bicyclists, and autos.

Improvement Measure I-TR-C: Driveway and Loading Operations Plan (DLOP)

As an improvement measure to reduce potential conflicts between driveway operations, including loading activities, and pedestrians, bicycles and vehicles on Howard and Minna Streets, the project sponsor could prepare a DLOP, and submit the plan for review and approval by the Planning Department and the SFMTA. As appropriate, the DLOP could be periodically reviewed by the sponsor, the Planning Department and SFMTA and revised if feasible to more appropriately respond to changes in street or circulation conditions.

²¹ The proposed project would comply with San Francisco Green Building Requirements for solid waste by providing space for recycling, composting, and trash storage, collection and loading that is convenient for all users of the building.

The DLOP would include a set of guideline related to the operation of the Howard Street and Minna Street driveways into the loading facilities, large truck curbside access guidelines, and would specify driveway attendant responsibilities to ensure that truck queuing and/or substantial conflicts between project-generated loading/unloading activities and pedestrians, bicyclists, transit and autos.

A draft Driveway and Loading Operations Plan is included the 5M Project Transportation Impact Study.

Implementation of **Improvement Measure I-TR-C** would reduce the potential for conflicts between project-generated loading/unloading activities and pedestrians, bicyclists, transit and autos, and would not result in any secondary transportation-related impacts.

Emergency Vehicle Access Impacts

Impact TR-9: The Office Scheme or Residential Scheme would not result in significant impacts on emergency vehicle access. (Less Than Significant)

Emergency access to the project site would remain mostly unchanged from Existing conditions. Emergency service providers would continue to be able to pull up to the project site via Mission, Fifth, and Howard Streets. In addition, access would continue to be provided via Minna and Natoma Streets, similar to existing conditions. The curb-to-curb width of Minna Street (20 feet) and Natoma Street (19 feet) would meet the *Better Streets Plan* guidelines of a 14-foot wide clearance for emergency vehicles for a one-way street.²² Smaller emergency vehicle providers would also be able to access Minna and Natoma Streets from Howard Streets via Mary Street; however, larger emergency vehicles would need to utilize Minna and Natoma Streets due to the tight turns required with the realignment of Mary Street and general narrow Mary Street roadway right-of-way (i.e., 15 feet). For these reasons, the proposed project would not inhibit emergency vehicle access to the project site and nearby

²² City and County of San Francisco, *Better Streets Plan, Policies and Guidelines for the Pedestrian Realm, Final Plan*. December 2010, page 155.

vicinity; therefore, the proposed project's impacts related to emergency vehicle access would be less than significant.

Construction Impacts

Impact TR-10: Construction of the Office Scheme or Residential Scheme project would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation. (Significant and Unavoidable with Mitigation)

The construction impact assessment is based on currently available information from the project sponsor, and professional knowledge of typical construction practices citywide. Prior to construction, as part of the construction application phase, the project sponsor and construction contractor(s) would be required to meet with DPW and SFMTA staff to develop and review truck routing plans for demolition, disposal of excavated materials, materials delivery and storage, as well as staging for construction vehicles. The construction contractor would be required to meet the *City of San Francisco's Regulations for Working in San Francisco Streets*, (the Blue Book), including those regarding sidewalk and lane closures, and would meet with SFMTA staff to determine if any special traffic permits would be required.²³ Prior to construction, the project contractor would coordinate with Muni's Street Operations and Special Events Office to coordinate construction activities and reduce any impacts to transit operations. In addition to the regulations in the Blue Book, the contractor would be responsible for complying with all City, State and federal codes, rules and regulations.

The project sponsor indicates that project phasing would be dictated by the market and demand for space, and would likely consist of concurrent construction of multiple buildings. Although there is no specific project phasing scheme, for purposes of environmental review, the proposed project is analyzed as two overlapping illustrative phases, as described in Chapter II, Project Description. Construction of the proposed project would begin in 2016, and extend over approximately eight

²³ The SFMTA Blue Book, 7th Edition, is available online through SFMTA (www.sfmta.com).

years. However, depending on tenant demand and related factors, the project sponsor may proceed with construction of the proposed project in a single phase.

It is anticipated that construction of individual buildings would take approximately 24 months. Detailed plans for construction activities have not yet been developed, but based on building construction of similar size, there would be three partially overlapping construction activity stages:

Stage 1 – Demolition

Stage 2 – Excavation and backfill

Stage 3 – Major construction

Construction-related activities would typically occur Monday through Friday, between 7:00 a.m. and 4:00 p.m. Construction is not anticipated to occur on Saturdays, Sundays or major legal holidays, but may occur on an as-needed basis. The hours of construction would be stipulated by the Department of Building Inspection, and the contractor would need to comply with the San Francisco Noise Ordinance and the Blue Book, including requirements to avoid peak hour construction activities on adjacent streets and coordinate with major events at the Moscone Center.²⁴

During demolition, construction staging would occur primarily within the project site on parcels containing surface parking lots (e.g., during construction of Buildings M-1 and M-2, construction staging would occur on the N-1 and N-2 parcels), and potentially on the adjacent sidewalks on Mission, Fifth, and Howard Streets for a portion or entire construction duration, and adjacent sidewalks and curb lanes may need to be closed for extended periods. As determined appropriate, temporary pedestrian walkways within the sidewalk or curb lane would be provided.

²⁴ The San Francisco Noise Ordinance permits construction activities seven days a week, between 7:00 a.m. and 8:00 p.m.

As part of the construction application phase, DPW and SFMTA would determine whether the truck staging zone would be permitted on Mission, Fifth, or Howard Streets during the PM peak period when tow-away restrictions are in place. If it is determined that temporary traffic lane closures on Mission, Fifth, or Howard Streets would be needed, the closures would be coordinated with the City in order to minimize the impacts on local traffic and transit, and include requirements for signage for pedestrian, bicycle and vehicular detours. It is anticipated that construction activities would require temporary closure of Minna and Natoma Streets, and impacts to traffic and pedestrians would be likely. Lane and sidewalk closures or diversions are subject to review and approval by the City's Transportation Advisory Staff Committee (TASC), which consists of representatives from the Fire Department, Police Department, SFMTA Traffic Engineering Division, and DPW.

Support poles for Muni's overhead wires are located adjacent to the project site on Mission Street, and wires are attached via eyebolts to the existing Chronicle Building. During the construction period the pole supporting the overhead wire system on Mission Street would need to be maintained, and this effort would be coordinated with Muni's Overhead Lines Department. It is not known if construction activities would affect the existing bus stop and bus shelter adjacent to the project site on Mission Street at the eastbound approach to Fifth Street, as construction activities at the Chronicle Building site would include renovation of the interior. If construction activities require bus stop relocation, the plans for relocation would need to be reviewed and approved by SFMTA.

During the construction period, there would be a flow of construction-related trucks into and out of the site. The impact of construction truck traffic would be a temporary lessening of the capacities of streets due to the slower movement and larger turning radii of trucks, which may affect both traffic and Muni operations. It is anticipated that a majority of the construction-related truck traffic would use I-80/U.S. 101, Third Street and Fourth Street to travel to and from the project site. To access the project site from I-80/U.S. 101, trucks would use the nearby off-ramps at Fremont and First Streets and Fifth/Harrison Streets, and travel on Third Street Howard Streets to the project site. To return to I-80/U.S. 101, trucks would continue access Fourth Street to access the on-ramps at First/Harrison or Fourth/Harrison Streets.

There would be an average of about 200 construction workers per day at the project site, with a greater number during peak periods of construction. The trip distribution and mode split of construction workers are not known. In San Francisco, some construction workers use transit or carpool to the site, particularly when located downtown, to reduce traffic and parking problems during construction. However, it is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as any impacts on local intersections or the transit network would be similar to, or less than, those associated with the proposed project and would be temporary in nature. Construction workers who drive to the site would cause a temporary parking demand. Since the nearby parking facilities, such as the Fifth & Mission Garage, currently have availability during the day, it is anticipated that construction worker parking demand could be accommodated without substantially affecting areawide parking conditions.

It is anticipated that concurrent construction of multiple buildings at the project site over the eight-year buildout period would overlap with the construction activity of other projects in the area, notably the 706 Mission Street building on Third Street between Mission and Market Streets, the 250 Fourth Street building on Fourth Street between Howard and Folsom Streets, the proposed Moscone Center Expansion on the block bounded by Third, Fourth, Howard and Mission Streets, the ongoing construction of the Central Subway on Fourth Street (which is anticipated to continue through 2017) and the construction of the Central Subway Moscone Station on Fourth Street between Clementina Street and Folsom Street (anticipated to occur between 2013 and 2017), as well as other future development projects in the area.²⁵ The expansion of the San Francisco Museum of Modern Art (SFMOMA) on Third Street between Howard and Mission Streets is currently under construction, but

²⁵ Tunneling, via a Tunnel Boring Machine (TMB) would be used for the majority of Central Subway construction on Fourth Street. The only visible tunneling activity will occur at the portal construction location on Fourth Street between Bryant and Harrison Streets, and at the excavation site on Columbus Avenue at Union Street. Construction of the Central Subway along Fourth Street would therefore not involve substantial closure of travel lanes, or significant reroutes of traffic. Increased truck activity to remove excavated materials would occur at the portal construction location on Fourth Street between Bryant and Harrison Streets.

is slated to be completed by early 2016, and therefore is not anticipated to overlap with construction activity of the proposed project. The construction activities associated with overlapping projects, and particularly the construction of the Central Subway Moscone Station, would affect access, traffic operations and pedestrian movements. It is anticipated that the construction manager for each project would be required to work with the various departments of the City to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control and pedestrian movement adjacent to the construction area for the duration of the overlap in construction activity. Therefore, given the concurrent construction of multiple buildings on the project site, expected intensity, and the prolonged construction period, and likely impacts to traffic, transit, and pedestrian and bicycle circulation, construction of the proposed project would result in significant construction-related transportation impacts.

Mitigation Measure M-TR-10 would ensure the maximum degree of coordination between project sponsor/construction managers and agencies to minimize potential conflicts between construction activities and pedestrians, transit, and autos.

Mitigation Measure M-TR-10: Construction Measures

Construction Coordination – To reduce potential conflicts between construction activities and pedestrians, bicyclists, transit and vehicles at the project site, the contractor shall prepare a Construction Management Plan for the project construction period. The project sponsor/construction contractor(s) shall also meet with DPW, SFMTA, the Fire Department, Muni Operations and other City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations (not anticipated, but if determined necessary) and other measures to reduce potential traffic, bicycle, and transit disruption and pedestrian circulation effects during construction of the proposed project. This review shall consider other ongoing construction in the project area, such as construction of the nearby Central Subway Moscone Station. As part of this effort, alternate construction staging locations shall be identified and assessed.

Carpool and Transit Access for Construction Workers – To minimize parking demand and vehicle trips associated with construction workers, the construction contractor shall include methods to encourage carpooling and transit access to the project site by construction workers in the Construction Management Plan.

Construction Truck Traffic Management – To minimize construction traffic impacts on Mission, Fifth, and Howard Streets, and on pedestrian, transit, bicycle and traffic operations, the construction contractor shall be required to retain traffic control officers during peak construction periods.

Project Construction Updates for Adjacent Businesses and Residents – To minimize construction impacts on access to nearby institutions and businesses, the project sponsor shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, parking lane and sidewalk closures. A regular email notice shall be distributed by project sponsor that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns.

Mitigation Measure M-TR-10 would minimize the proposed project's impacts related to construction-related transportation impacts. Implementation of this mitigation measure would not result in any secondary transportation-related impacts. However, construction activities would likely result in disruption and to traffic, transit, pedestrians and bicyclists for a prolonged period. Therefore, the proposed project's construction-related transportation impacts would remain significant and unavoidable.

Parking Conditions

As discussed in Summary, SB 743 amended CEQA by adding Public Resources Code Section 21099 regarding the analysis of parking impacts for certain urban infill projects in transit priority areas.²⁶ Public Resources Code Section 21099(d), effective January 1, 2014, provides that “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.” The proposed project meets each of the above three criteria: it is in a transit priority area because of its location within ½ mile of a major transit stop; it is an infill site because it is located on a previously developed site in an urban area; and it is an employment center because it would be an expansion of existing commercial support uses, located in a transit priority area on a site already developed and zoned for commercial uses. Thus, this EIR does not consider adequacy of parking in determining the significance of project impacts under CEQA. However, the Planning Department acknowledges that parking conditions may be of interest to the public and the decision makers. Therefore, a parking demand analysis is presented for informational purposes and considers secondary physical impacts associated with constrained supply (e.g., queuing by drivers waiting for scarce onsite parking spaces that affects the public right-of-way).

Proposed Project Parking Supply. The project site currently contains surface parking lots across 12 parcels with a total of approximately 256 parking spaces accessed from Mission, Minna, Mary, Natoma, Howard, and Fifth Streets. The existing surface parking lots would be eliminated and the space would be developed with the proposed project.

²⁶ A “transit priority area” is defined as an area within ½ mile of an existing or planned major transit stop. A “major transit stop” is defined in California Public Resources Code Section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. A map of San Francisco’s Transit Priority Areas is available online at: sfmea.sfplanning.org/Map%20of%20San%20Francisco%20Transit%20Priority%20Areas.pdf.

The proposed project would provide a maximum of 663 spaces in a subterranean parking garage under the Office Scheme and 756 spaces under the Residential Scheme. The total number of parking spaces would be limited to the maximum amount cumulatively permitted under the SUD, and is consistent with existing *Planning Code* permitted controls for the C-3 district. Parking would be shared by all buildings on the site, in accordance with accessory parking controls proposed in the SUD.²⁷ The proposed project would provide ADA parking spaces consistent with the requirements in the *Planning Code* (i.e., one space of every 25 spaces). In addition to the 663 and 756 vehicle parking spaces for the proposed land uses for the Office Scheme and Residential Scheme, respectively, the Office Scheme would provide 12 carshare parking spaces while the Residential Scheme would provide 11 carshare parking spaces.

- The driveway on Minna Street into Building M-2 would be 22 feet wide, and the ramp would have a 15 percent grade. In addition, the subterranean parking levels under Building M-2 would provide access to parking spaces that would be provided in the existing one-floor basement of Building M-1 (Chronicle Building) through a connection between the two structures under Mary Street. Parking for the Chronicle Building would be provided in the existing basement of the Chronicle Building and beneath Building M-2.
- The driveway on Minna Street into Building N-1 would be 27 feet wide (two 11-foot wide travel lanes, plus a 5-foot wide bicycle lane in the outbound direction), and the ramp would have a 12 percent grade.
- The driveway on Howard Street into Building H-1 would be 30 feet wide, and the ramp to the below-grade level would have a 12 percent grade.

²⁷ As part of project approvals, the Planning Commission would consider adoption of a special use district, the Fifth and Mission SUD, which would be coterminous with the project site. The SUD would address inconsistencies with current *Planning Code* provisions and would include a companion D4D document that would also be considered for approval by the Planning Commission. The D4D document would articulate in greater detail the design of project in order to regulate the physical characteristics of proposed development on the site and would be required if the project would not otherwise be subject to existing *Planning Code* controls (or to provide detail not in the SUD). The SUD and D4D document would establish project-wide parking requirements and limitations that permit basement parking to be shared by all project buildings. The Proposed Project would include approximately 888 vehicle parking spaces (632 net new spaces) within the shared subterranean parking area.

The two main parking areas (beneath Buildings M-1/M-2 and Buildings N-1/H-1/H-2) are proposed to be connected through expansion of an existing subterranean connection between the Chronicle and Examiner Buildings. The below-grade level would have a minimum vertical clearance of 8 feet 2 inches.

Implementation of the proposed project would result in elimination of 31 on-street parking spaces due to realignment of Mary Street to the west, creation of shared streets, sidewalk widening on Fifth Street, and implementation of proposed on-street commercial loading and passenger loading/unloading zones. The elimination of the 31 on-street parking spaces would be as follows: three spaces on Mission Street, six spaces on Fifth Street, two spaces on Howard Street, six spaces on Minna Street, and 14 spaces on Natoma Street. In addition, the 16 motorcycle parking spaces on Fifth Street between Mission and Howard streets would be eliminated.

As presented in **Table IV.D-10**, the Office Scheme would generate a total midday parking demand for about 2,177 spaces, of which 1,746 spaces would be for long-term parking demand and 431 spaces for short-term parking demand. The overnight parking demand associated with the residential units for the Office Scheme would be 1,111 long-term parking spaces.

The Residential Scheme would generate a total midday parking demand for about 2,183 spaces, of which 1,793 spaces would be for long-term parking demand and 390 spaces for short-term parking demand. Parking demand associated with the residential uses would comprise the greatest proportion of the parking demand (i.e., 1,176 of the 2,304 space parking demand, or 51 percent of the total demand). The overnight parking demand associated with the residential units for the Residential Scheme would be 1,470 long-term parking spaces.

The parking assessment was conducted for overnight and midday conditions, which are summarized in **Table IV.D-18**. The proposed project would not include the provision of valet parking for the restaurant uses. However, if valet operations are determined to be desired at a later date, the restaurant operator would need to apply for valet parking permits, which are issued by the San Francisco Police Department.

Table IV.D-18: Proposed Project Parking Supply and Demand Comparisons

Project Schemes/Analysis Period	Supply	Demand ^a	(Shortfall)
Office Scheme/ Midday Conditions			
Residential	457	889	(432)
Non-Residential	206	1,288	(1,082)
Subtotal	663	2,177	(1,514)
Overnight Conditions			
Residential	457	1,111	(654)
Residential Scheme/Midday Conditions			
Residential	605	1,176	(571)
Non-Residential	151	1,007	(856)
Subtotal	756	2,183	(1,427)
Overnight Conditions			
Residential	605	1,470	(802)

^a Short-term and long-term demand associated with proposed office, retail, and restaurant uses.
Source: *5M Project Transportation Impact Study*, October 2014.

Overnight Conditions. The long-term residential parking demand generally occurs during the overnight hours. Under the Office Scheme, the residential demand of 1,111 spaces would not be accommodated within the residential parking supply of 457 parking spaces, which would result in a shortfall of 654 spaces, while under the Residential Scheme, the residential demand of 1,407 spaces would not be accommodated within the residential parking supply of 605 spaces, which would result in a shortfall of 802 parking spaces. Under both schemes, a portion of the overnight parking shortfall could be accommodated within the non-residential component of the proposed project garage, and a portion would need to be accommodated on-street and/or in other nearby garages, such as the Fifth & Mission Garage. The Fifth & Mission Garage is located across the street to the east of the project site and contains 2,585 parking spaces. It is open 24-hours a day, and existing overnight occupancy is about 10 to 20 percent. The overnight parking shortfall would therefore, be accommodated within the on-site and nearby public parking facilities.

Midday Conditions. For weekday midday conditions, the overall parking demand of 2,177 spaces for the Office Scheme would not be accommodated within the total parking supply of 663 parking spaces, which would result in a shortfall of 1,514 spaces, while the overall parking demand of 2,183

spaces for the Residential Scheme would not be accommodated within the total parking supply of 756 spaces, which would result in a shortfall of 1,427 parking spaces.

The parking shortfall could be accommodated within the Fifth & Mission Garage on most weekdays, as weekday midday occupancy ranges between 40 and 60 percent, and, at 60 percent occupancy (i.e., about 1,552 of 2,586 spaces occupied, and 1,034 spaces available). The Fifth & Mission Garage would be able to accommodate much of the proposed project shortfall of 1,514 spaces for the Office Scheme and 1,427 spaces for the Residential Scheme, which would increase the overall occupancy of the Fifth & Mission Garage from 60 percent to more than 100 percent. However, it is not anticipated that visitors to the proposed project would only park at the Fifth & Mission Garage; other parking facilities in the study area, such as the Jessie Square Garage, also have availability during the weekday midday period.

As noted above, the proposed project would result in elimination of 31 metered and unmetered parking spaces. The displaced demand would need to be accommodated on-street elsewhere on Mission, Fifth, Howard, Minna and Natoma Streets in the vicinity of the project site, or off-street within the Fifth & Mission Garage. Standard on-street parking spaces are generally well occupied (e.g., about 90 to 100 percent during the midday period), and therefore the demand associated with the loss in parking spaces would need to be accommodated on-street further from the project site, and a portion would need to be accommodated off-street within the Fifth & Mission Garage, or other public parking facilities in the area.

Garage Operations. As indicated in Impact TR-3, the proposed project parking garage operations were reviewed for AM peak hour conditions to determine whether queues associated with vehicle access into the garage would spill back onto the sidewalk and adjacent vehicle travel and bicycle lanes, thereby increasing the potential for conflicts between vehicles, transit, bicyclists and pedestrians on Minna and Howard Streets. Based on the maximum AM peak hour entering demand of 171 vehicles, the 95th percentile queue would be four vehicles (a distance of about 80 feet). The maximum queue would therefore be accommodated on all three driveway ramps, and would not spill back onto the sidewalk or adjacent travel lanes. **Improvement Measure I-TR-A** would reduce

the potential for queuing by vehicles accessing the project site by requiring monitoring of the project access driveways on Minna and Howard Streets at Howard Street, and if a recurring queue occurs, the owner/operator of the proposed project would employ abatement methods as needed to abate the queue.

CUMULATIVE IMPACTS

This section discusses the cumulative impacts to transportation that could result from the project in conjunction with past, present, and reasonably foreseeable future projects. The geographic context for the analysis of cumulative transportation impacts includes the sidewalks and roadways adjacent to the project site, and the local roadway and transit network in the vicinity of the project site. The discussion of cumulative transportation impacts assesses the degree to which the proposed project would affect the transportation network in conjunction with other reasonably foreseeable projects. Detailed calculations and a discussion of the proposed project's contribution to specific intersections are included in the project's TIS.

Cumulative Traffic Impacts

Impact C-TR-1: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in a considerable contribution to significant cumulative traffic impacts at nine study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions. (Significant and Unavoidable Impact)

Table IV.D-19 presents the 2040 Cumulative intersection operating conditions for the weekday PM peak hour. Under 2040 Cumulative conditions 17 of the 21 study intersections are projected to operate at LOS E or LOS F conditions (as compared to nine of the 21 study intersections operating at LOS E or LOS F under Existing conditions). The four study intersections of Fifth/Mission, Fifth/Minna, Sixth/Mission, and Sixth/Minna Streets are projected to operate at LOS D or better under 2040 Cumulative conditions.

Table IV.D-19: Intersection Level of Service – Existing and 2040 Cumulative Conditions, Weekday PM Peak Hour

Intersection	Existing		2040 Cumulative ^c	
	Delay ^a	LOS ^b	Delay	LOS
1. Fourth/Market/Stockton	56.1	E	> 80	F
2. Fourth/Mission	28.1	C	> 80	F
3. Fourth/Howard	52.5	D	> 80	F
4. Fourth/Folsom	> 80	F	> 80	F
5. Fifth/Market	55.9	B	> 80	F
6. Fifth/Mission	15.1	B	31.0	C
7. Fifth/Minna ^d	2.5 (sb)	A	2.4 (sb)	A
8. Fifth/Natoma ^d	38.2 (eb)	E	> 50 (eb)	F
9. Fifth/Howard	15.1	B	> 80	F
10. Fifth/Folsom	27.7	B	> 80	F
11. Fifth/Harrison	77.1	E	> 80	F
12. Fifth/Bryant	> 80 (1.25)	F	> 80	F
13. Sixth/Market	44.6	D	62.4	E
14. Sixth/Mission	32.3	C	26.5	C
15. Sixth/Minna ^e	> 50 (wb)	F	18.5	B
16. Sixth/Natoma ^d	> 50 (eb)	F	> 80	F
17. Sixth/Howard	35.5	D	> 80	F
18. Sixth/Folsom	43.3	D	> 80	F
19. Sixth/Harrison	31.6	C	> 80	F
20. Sixth/Bryant	> 80 (1.43)	F	> 80	F
21. Sixth/Brannan	74.4	E	> 80	F

- ^a Delay presented in seconds per vehicle. Intersections operating at LOS E or LOS F highlighted in **bold**.
- ^b Intersections operating at LOS E or LOS F highlighted in **bold**. Project Impacts = shaded.
- ^c Assumes implementation of Central SoMa Plan One-Way Howard/Folsom option. See discussion in section 4.3.1 above regarding the Central SoMa Plan Two-Way Howard/Folsom option.
- ^d Intersection stop sign-controlled. Delay and LOS presented for the approach with the highest delay.
- ^e Signalization of intersection by SFMTA planned for 2014.

Source: 5M Project Transportation Impact Study, October 2014.

As indicated in Impact TR-1 under Existing plus Project conditions, the proposed project would result in significant traffic impacts at the four study intersections of Fourth/Howard, Sixth/Folsom, Sixth/Bryant, and Sixth/Brannan Streets, and therefore, would also result in a considerable contribution to significant cumulative impacts at these intersections. The proposed project contributions to the cumulative traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the remaining 17 intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions were reviewed to determine whether the proposed project contributions to the LOS E or LOS F

operating conditions under 2040 Cumulative conditions would be considered considerable. Detailed calculations and percent contributions to critical movements are included in the project's TIS.

At the five study intersections of Fourth/Mission, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, and Sixth/Harrison Streets, the proposed project's contributions to the critical movements operating at LOS E or LOS F would be more than 5 percent, which would be considered a considerable contribution, and therefore the proposed project would result in a considerable contribution to significant cumulative impacts at these five study intersections.

Each of the nine study intersections at which the proposed project would contribute considerably to the significant cumulative impacts was reviewed to determine if mitigation measures could reduce the impact to less-than-significant levels or lessen the severity of the project's considerable contribution to significant cumulative impacts. Overall, no feasible mitigation measures were found to mitigate significant cumulative impacts for the affected intersections. The cumulative traffic impacts would generally be due not just to the proposed project, but also to increases in traffic in the region caused by long-term anticipated growth and reduction in travel lane capacity proposed by the Central SoMa Plan. Generally, additional travel lane capacity would be needed on one or more approaches to the intersection in order to mitigate LOS E or LOS F intersection operating conditions. The provision of additional travel lane capacity would typically require the narrowing of sidewalks, removal of bicycle lanes, and/or the conversion of existing transit-only lanes to mixed-flow lanes. These actions would generally be inconsistent with the transit, bicycle, and pedestrian environment encouraged by the City's *Transit First* Policy because they would remove space dedicated to pedestrians, bicycles, and/or transit and increase the distances required for pedestrians to cross streets. Additional improvements, such as changes to the signal timing cycle length and/or green time allocations, may improve conditions slightly but generally would not reduce significant cumulative impacts to less-than-significant levels. Thus, the proposed project's identified considerable contribution to significant cumulative traffic impacts at the nine study intersections would remain, and the 2040 Cumulative traffic impacts at these intersections would remain significant and unavoidable.

For the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would contribute considerably to significant cumulative traffic impacts at the nine study intersections of Fourth/Howard, Sixth/Folsom, Sixth/Bryant, Sixth/Brannan, Fourth/Mission, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, and Sixth/Harrison Streets, and the significant cumulative impacts would be significant and unavoidable.

Impact C-TR-2: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in a considerable contribution to significant cumulative traffic impacts at eight study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions, and would result in less-than-significant cumulative impacts at four study intersections that would operate at LOS D or better under 2040 Cumulative conditions. (Less Than Significant)

As indicated in **Table IV.D-19**, under 2040 Cumulative conditions 17 of the 21 study intersections are projected to operate at LOS E or LOS F conditions, and under Impact C-TR-1 above, the proposed project would result in a considerable contribution to the significant cumulative impacts at nine of the 17 study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions.

At the eight study intersections of Fourth/Market/Stockton, Fifth/Market, Fifth/Natoma, Fifth/Harrison, Fifth/Bryant, Sixth/Market, Sixth/Natoma, and Sixth/Howard Streets which are projected to operate at LOS E or LOS F under 2040 Cumulative conditions, the proposed project's contributions to the critical movements operating at LOS E or LOS F would be less than 5 percent, which would not be considered a considerable contribution to the significant cumulative traffic impacts. Because the proposed project would not result in considerable contribution to the poor operating conditions at the critical movements, the proposed project would not contribute considerably to the significant cumulative traffic impacts at these eight intersections.

The four study intersections of Fifth/Mission, Fifth/Minna, Sixth/Mission, and Sixth/Minna Streets are projected to operate at LOS D or better under 2040 Cumulative conditions, and would be associated with less-than-significant cumulative impacts.

For the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would not contribute considerably to significant cumulative traffic impacts at the intersections of Fourth/Market/Stockton, Fifth/Market, Fifth/Natoma, Fifth/Harrison, Fifth/Bryant, Sixth/Market, Sixth/Natoma, and Sixth/Howard Streets, and would result in less-than-significant cumulative traffic impacts at the intersections of Fifth/Mission, Fifth/Minna, Sixth/Mission, and Sixth/Minna Streets.

Cumulative Transit Impacts

Impact C-TR-3: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in a considerable contribution to significant 2040 Cumulative transit impacts at Muni screenlines. (Less Than Significant)

Transit Capacity Utilization. As indicated in **Table IV.D-20**, for 2040 Cumulative conditions during the PM peak hour, the capacity utilization of the Northeast and Southwest screenlines and corridors within the screenlines would be less than Muni's 85 percent capacity utilization standard. However, under 2040 Cumulative conditions, the capacity utilization on the California, Sutter/Clement, and Fulton/Hayes corridors within the Northwest screenline (as well as overall for the Northwest screenline), and on the Mission and San Bruno/Bayshore corridors within the Southeast screenline would increase and exceed the 85 percent capacity utilization standard during the PM peak hour. These exceedances of the capacity utilization standard for the three corridors within the Northwest screenline and for the Northwest screenline, and for the two corridors within the Southeast screenline under 2040 Cumulative conditions would be considered a significant cumulative impact.

The Office Scheme, which would generate more transit trips during the PM peak hour than the Residential Scheme, would add about 511 new transit trips during PM peak hour to the Muni screenlines. The contribution of the proposed project trips to the corridors and screenlines exceeding the 85 percent capacity utilization standard would be minimal (i.e., less than 5 percent), and therefore, would not result in a considerable contribution to screenlines and corridors operating at

greater than the 85 percent capacity utilization standard. Therefore, the proposed project would not contribute considerably to the significant cumulative Muni transit impacts at the screenlines.

Table IV.D-20: Muni Screenline Analysis – Existing and 2040 Cumulative Conditions, Weekday PM Peak Hour

Screenline/Corridor	Existing		2040 Cumulative	
	Ridership	Capacity Utilization	Ridership	Capacity Utilization
Northeast				
Kearny/Stockton	2158	65.6%	6,295	75.6%
Other	570	52.8%	1,229	59.5%
Subtotal	2,728	62.4%	7,524	72.4%
Northwest				
Geary	1,814	71.7%	2,996	82.7%
California	1,366	81.0%	1,766	87.4%
Sutter/Clement	470	74.6%	749	99.1%
Fulton/Hayes	965	82.0%	1,762	93.8%
Balboa	637	68.6%	776	79.7%
Subtotal	5,252	75.6%	8,049	87.0%
Southeast				
Third	550	77.0%	2,300	40.3%
Mission	1,529	54.8%	2,673	88.9%
San Bruno/Bayshore	1,320	61.8%	1,817	85.1%
Other	1,034	60.4%	1,582	82.1%
Subtotal	4,433	60.3%	8,372	65.5%
Southwest				
Subway	4,747	73.1%	5,692	83.7%
Haight/Noriega	1,105	66.9%	1,265	79.3%
Other	276	39.4%	380	45.2%
Subtotal	6,128	70.9%	7,337	79.4%
Total All Screenlines	18,540	67.9%	31,282	75.4%

Source: 5M Project Transportation Impact Study, October 2014.

Impact C-TR-4: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant regional transit impacts on AC Transit, Caltrain, Golden Gate Transit, SamTrans and other regional ferry service under 2040 Cumulative conditions. (Less Than Significant)

As indicated in **Table IV.D-21**, for 2040 Cumulative conditions during the PM peak hour, all regional transit service providers are projected to operate under the capacity utilization standard of 100 percent. The Office Scheme, which would generate more transit trips during the PM peak hour than the Residential Scheme, would add 444 new transit trips (inbound and outbound) to regional transit providers during the PM peak hour.

As indicated in **Table IV.D-21**, under 2040 Cumulative conditions no regional transit providers are expected to exceed their established capacity utilization thresholds (i.e., 100 percent). Therefore, the cumulative impacts to regional transit would be less than significant.

Table IV.D-21: Regional Screenline Analysis – Existing and 2040 Cumulative Conditions, Weekday PM Peak Hour

Screenline/Corridor	Existing		2040 Cumulative	
	Ridership	Capacity Utilization	Ridership	Capacity Utilization
East Bay				
BART	19,716	89.4%	30,383	91.6%
AC Transit	2,256	57.5%	7,000	58.3%
Ferries	805	49.8%	5,319	89.5%
Subtotal	22,777	82.6%	42,702	83.5%
North Bay				
GGT buses	1,384	49.1%	2,070	73.5%
Ferries	968	49.4%	1,619	82.6%
Subtotal	2,352	49.2%	3,689	77.2%
South Bay				
BART	10,682	71.6%	13,971	57.8%
Caltrain	2,377	76.7%	2,529	70.3%
SamTrans	141	44.1%	150	46.9%
Ferries	0	0%	59	29.5%
Subtotal	13,200	72.0%	16,709	59.0%
Total All Screenlines	38,329	75.6%	63,100	75.0%

Source: 5M Project Transportation Impact Study, October 2014.

Cumulative Bicycle Impacts

Impact C-TR-5: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative bicycle impacts. (Less Than Significant)

The proposed project would not contribute considerably to cumulative bicycle circulation or conditions in the area. The proposed project would generate trips by bicycles, and would provide Class 1 and Class 2 bicycle parking. Bicycling trips in the area may increase between the completion of the project and the cumulative scenario due to general growth in the area. As noted above, under 2040 Cumulative conditions, there is a projected increase in vehicles at intersections in the vicinity of the proposed project, which may result in an increase in vehicle-bicycle conflicts at intersections in the study area. While there would be a general increase in vehicle traffic that is expected through the future 2040 Cumulative conditions, the proposed project would not create potentially hazardous conditions for bicycles, or otherwise interfere with bicycle accessibility to the site and adjoining areas, or substantially affect the existing Class II bicycle lane on Howard Street, proposed Class II bicycle lanes in each direction on Howard Street under the Central SoMa Plan Howard/Folsom Two-Way Option, or the proposed two-way cycle track under the Central SoMa Plan Howard/Folsom One-Way Option. Project elements and improvement measures requiring that the points of access to bicycle parking include signage indicating the location of these facilities, avoiding conflicts with private cars and loading vehicles accessing the garage, and facilitating access to bicycle routes through on-site signage, would all serve to increase bicycling trips over time although not to the level that would create potentially hazardous conditions for bicycles. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in less-than-significant cumulative impacts on bicyclists.

Cumulative Pedestrian Impacts

Impact C-TR-6: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative pedestrian impacts. (Less Than Significant)

Pedestrian circulation impacts by their nature are site-specific and generally do not contribute to impacts from other development projects. As indicated in Impact TR-7, the proposed project's significant impacts at the east crosswalk and southeast corner of the intersection of Fifth/Mission Streets would be mitigated to less-than-significant with implementation of **Mitigation Measure M-TR-7**. The proposed project would therefore, not result in overcrowding of sidewalks or create new potentially hazardous conditions for pedestrians under existing or cumulative conditions. The proposed project would improve pedestrian circulation adjacent to the project site by widening the sidewalk adjacent to the project site on Fifth Street between Mission and Howard streets, widening the sidewalks on both sides of Natoma Street between Fifth and Mary streets west of a proposed egress point in the H-1 building for freight traffic, closing Mary Street between Minna and Mission streets to vehicular traffic, and realigning Mary Street between Minna and Natoma streets to the west to provide for a pedestrian-only open space area between Buildings N-2 and N-3. In addition, the Design for Development includes providing pedestrian safety features, such as tactile paving and bollards. These elements would improve pedestrian conditions by facilitating safe pedestrian circulation and crossings, by providing safe spaces for pedestrians, and by increasing pedestrian visibility to drivers. The proposed project mitigation measure would improve pedestrian conditions by facilitating safe pedestrian circulation and crossings, by providing safe spaces for pedestrians, and by increasing pedestrian visibility to drivers.

Between existing and 2040 Cumulative conditions, the number of pedestrians on study area crosswalks, sidewalks, and corners may increase, primarily due to implementation of the Central SoMa Plan, The Central SoMa Plan Howard/Folsom One-Way Option proposes to upgrade sidewalks to meet the standards in the Better Streets Plan, provide additional crosswalks across major streets, and widen and upgrade crosswalks. In the project vicinity, the north sidewalk of Howard Street between 11th and Third Streets is proposed to be widened to 15 feet, and with the sidewalk widening, the crosswalk widths would also be increased.

In addition, there is a projected increase in background vehicle traffic between Existing plus Project and 2040 Cumulative conditions. This would result in an increase in the potential for vehicle-pedestrian conflicts at intersections in the study area. While there would be a general increase in

vehicle traffic that is expected through the future 2040 Cumulative conditions, the proposed project would not create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas. For the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in less-than-significant cumulative pedestrian impacts.

Cumulative Loading Impacts

Impact C-TR-7: The proposed project, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative loading impacts. (Less Than Significant)

Loading impacts are by their nature localized and site-specific, and would not contribute to impacts from other development projects near the project site. Moreover, the proposed project would not result in truck or passenger loading impacts, as the estimated loading demand would be met on-site and within on-street commercial loading spaces. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in less-than-significant cumulative truck or passenger loading impacts.

Cumulative Emergency Vehicle Access Impacts

Impact C-TR-8: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in less-than-significant cumulative emergency vehicle access impacts. (Less Than Significant)

The proposed project would not considerably contribute to cumulative emergency vehicle access conditions in the area. With implementation of the proposed project, emergency vehicle access to the project site would remain unchanged from existing conditions. If implemented, the TEP TTRP.14 Moderate Alternative will extend the existing transit-only lane hours of 4:00 to 6:00 p.m. in both directions and 7:00 to 9:00 a.m. in the inbound direction to full-time for the segment of Mission Street between Fourth and Eleventh streets. In addition, the existing 7:00 a.m. to 6:00 p.m. hours of the

Mission Street transit-only lanes between Fourth and Main streets in the outbound direction and between Fourth and Beale streets in the inbound direction will be extended to full-time. If the TEP TTRP.14 Expanded Alternative is implemented instead of the TTRP.14 Moderate Alternative, it will relocate the existing side-running transit-only lanes between Fifth and First streets in the outbound direction and between Sixth and First streets in the inbound direction, so that they become center-running transit-only lanes, and transition the outbound transit-only lane back to its existing curbside configuration and rescind the inbound transit-only lane from Seventh to Sixth streets.

With implementation of the Central SoMa Plan the existing transit-only lane along the east curb of Third Street between King and Market streets would remain, and a transit-only along the west curb of Fourth Street between Market and Harrison streets would be provided. Under the Howard/Folsom One-Way Option, Folsom Street between Eleventh and Second streets would be modified to have two eastbound travel lanes and a two-way cycle track along the north curb. East of Sixth Street, parking would be permitted along the south curb during off-peak times, while during peak travel periods, parking would be prohibited to create an eastbound transit-only lane. Under the Howard/Folsom Two-Way Option, Folsom Street between Eleventh and Fourth streets would be modified to have one eastbound and one westbound travel lane, while between Fourth and Second streets, Folsom Street would be modified to have one eastbound transit-only lane, one eastbound travel lane, and one westbound travel lane. With implementation of transit-only lanes and changes to the number and direction of travel lanes on streets in the vicinity of the proposed project, emergency vehicle providers may adjust travel routes to respond to incidents; however, emergency vehicle access in area would not be substantially affected. Emergency vehicles would be permitted full use of transit-only lanes, and would not be subject to any turn restrictions. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in less-than-significant cumulative emergency vehicle access impacts.

Cumulative Construction Impacts

Impact C-TR-9: The Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation. (Significant and Unavoidable with Mitigation)

The construction of the proposed project may overlap with the construction of other projects, including the 706 Mission Street and 250 Fourth Street projects for which building permits have already been approved, and the Moscone Center Expansion and the Central SoMa Plan which are currently proposed, although the timing of construction is not currently known. The SFMOMA expansion project is currently under construction, and construction is anticipated to be completed by early 2016. The Central Subway project is currently under construction, and construction is anticipated to be completed by 2017 (and revenue service initiated in 2019). In addition, proposed streetscape improvements on Howard, Third, and Fourth Streets included within the Central SoMa Plan, as well as future development projects, may be constructed during the proposed project's approximately eight-year construction period.

Overall, localized cumulative construction-related transportation impacts could occur as a result of cumulative projects that generate increased traffic at the same time and on the same roads as the proposed project. The construction manager for each project would work with the various departments of the City to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control, and pedestrian movement adjacent to the construction area for the duration of any overlap in construction activity. **Mitigation Measure M-TR-10** would minimize, but not eliminate, the proposed project's significant impacts related to conflicts between construction activities and pedestrians, transit, and autos, and would include measures such as construction coordination, construction truck traffic management, project construction updates for adjacent businesses and residents, and carpool and transit access for construction workers. In addition, given the number of projects proposed in the vicinity and the uncertainty concerning construction schedules, cumulative construction activities could potentially result in disruptions to traffic, transit, pedestrians, and/or bicycles that could be significant, and despite the best efforts of the project

sponsor and project construction contractor(s), it is possible that simultaneous construction of the proposed project and other nearby projects could result in substantial disruption to traffic and transit operations, as well as pedestrian and bicycle circulation. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in significant cumulative construction-related transportation impacts.

Cumulative Parking Conditions

As discussed above, an analysis of parking demand is presented for informational purposes. Considering cumulative parking conditions, over time, due to the land use development and increased density anticipated within the City, parking demand and competition for on- and off-street parking is likely to increase. Consistent with the City's Transit First Policy, the City's Better Streets program and related projects, the proposed project would provide on-site parking only for the residential and office uses. The parking shortfall associated with proposed project's parking demand would need to be accommodated in nearby public parking facilities, such as the nearby Fifth & Mission Garage, and, as a result, the midday parking occupancy in the study area would increase.

E. NOISE

This section describes existing noise conditions in the vicinity of the project site, describes criteria for determining the significance of noise impacts, and estimates noise levels that would result from implementation of the proposed project. Where appropriate, mitigation measures are recommended to reduce project-related noise impacts.

Environmental Setting

This setting section begins with an introduction to several key concepts and terms that are used in evaluating noise. It then explains the various agencies that regulate the noise environment in San Francisco and summarizes key standards that are applied to proposed development. This setting section concludes with a description of current noise sources that affect the project site.

Noise Background. Noise is generally defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is the number of complete vibrations or cycles per second of a wave that results in the range of tone from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment, and it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effects on adjacent sensitive land uses. Sensitive land uses refer to land uses that contain persons who are particularly sensitive to noise, such as residential uses, hospitals, and schools.

Basic Noise Terminology and Concepts. Sound is characterized by various parameters that describe the rate of oscillation (frequency) of sound waves, the distance between successive troughs or crests

in the wave, the speed that it travels, and the pressure level or energy content of a given sound. The sound pressure level has become the most common descriptor used to characterize the loudness (or amplitude) of an ambient sound, and the decibel (dB) scale is used to quantify sound intensity. A decibel (dB) is a unit of measurement which indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect.

Because sound can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale¹ is used to keep sound intensity numbers at a convenient and manageable level. Thus, a 10 dB increase in the level of a continuous noise represents a perceived doubling of loudness, while a 20 dB increase is 100 times more intense, and a 30 dB increase is 1,000 times more intense. As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level. Noise levels diminish or attenuate as distance from the source increases based on an inverse square rule, depending on how the noise source is physically configured. The noise level from a single-point source, such as a single piece of construction equipment at ground level, attenuates at a rate of 6 dB for each doubling of distance (between the single-point source of noise and the noise-sensitive receptor of concern). Heavily-traveled roads with few gaps in traffic behave as continuous line sources and attenuate roughly at a rate of 3 dB per doubling of distance.

Since the human ear is not equally sensitive to all pitches (sound frequencies) within the entire spectrum, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity in a process called "A-weighting," expressed as "dBA." The dBA or A-weighted decibel refers to a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. **Table IV.E-1** contains a list of typical acoustical terms and definitions. **Figure IV.E-1** shows some representative noise sources and their corresponding noise levels in dBA.

¹ Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. The logarithmic decibel scale allows an extremely wide range of acoustic energy to be characterized in a manageable notation.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. The predominant rating scales for human communities in the State of California are the L_{eq} , the community noise equivalent level (CNEL), and the day-night average level (L_{dn}), based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours. Typical A-weighted sound levels from various sources are described in **Figure IV.E-1**.

When assessing the annoyance factor, other noise rating scales of importance include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

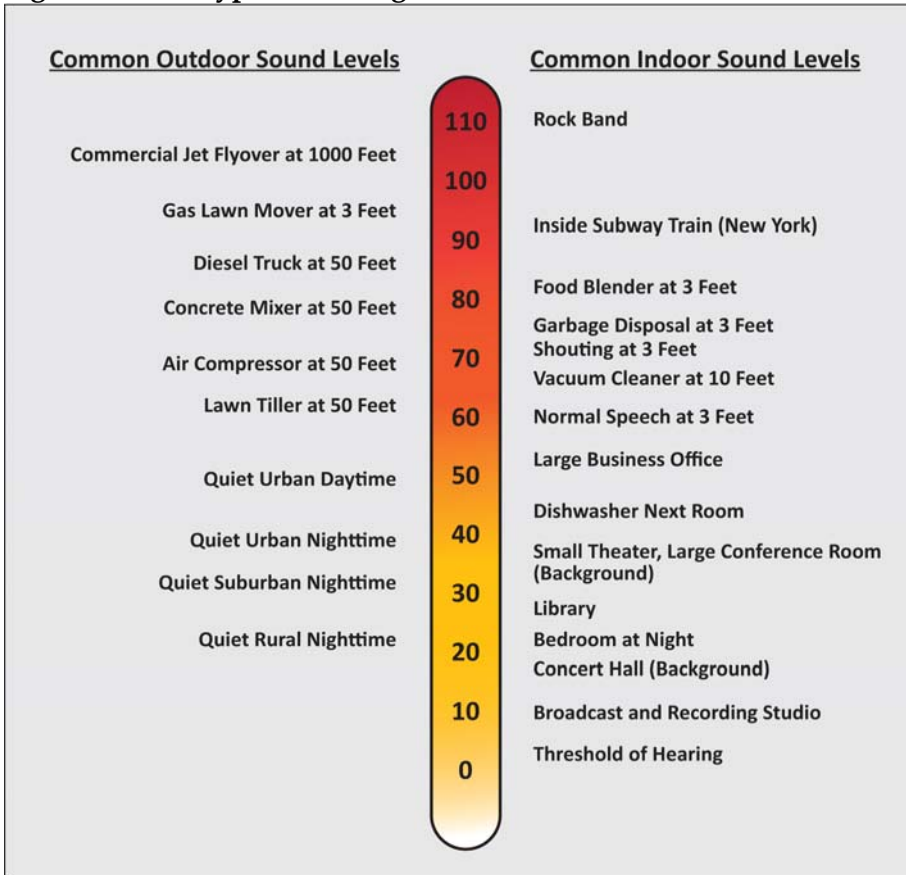
Typical Sound Levels in the Noise Environment. Noise impacts can be organized into three categories. The first is audible noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dBA or greater, since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dBA. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1 dBA that are inaudible to the human ear.

Table IV.E-1: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L ₀₁ , L ₁₀ , L ₅₀ , L ₉₀	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L _{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L _{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L _{max} , L _{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Sound Exposure Level, SEL	The cumulative sound exposure from a single noise event. Over a stated time period or event, the logarithm of the ratio of a given time integral of squared frequency-weighted sound pressure to the product of the reference sound pressure of 20 micropascals and the reference duration of 1 second.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Harris, C.M., *Handbook of Acoustical Measurements and Noise Control*, 1998. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Figure IV.E-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA Associates, Inc., 2014

Basic Groundborne Vibration Terminology and Concepts. Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may be perceptible vibration due to the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. When assessing annoyance from groundborne noise, vibration is typically expressed as root mean square (rms) velocity in units of decibels of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as “VdB.” Human perception to vibration in indoor environments starts at levels as low as 67 VdB and sometimes lower. Annoyance

due to vibration in residential settings starts at approximately 70 VdB. Groundborne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Common sources of groundborne vibration include trains and construction activities such as blasting, pile driving and the operation of heavy earthmoving equipment. Typical vibration source levels from construction equipment are shown in **Table IV.E-2**.

Table IV.E-2: Typical Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (inches/second)	Approximate VdB at 25 feet
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75
Vibratory roller		0.210	94
Hoe ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Existing Noise Environment. The project site is located in Downtown San Francisco where the existing noise environment is dominated by traffic noise sources, as is typical of urban environments. The project site has frontages on Mission, Fifth, and Howard Streets. Major public transportation routes, including MUNI and BART lines, are located on Market, Mission, and Powell Streets. The MUNI Central Subway extension project along Fourth Street is planned for completion in 2019.

Sensitive Receptors. Land uses surrounding the site include hotel, retail, office, residential, convention, parking, and public facilities uses that typify Downtown San Francisco and its immediate

surroundings in the SoMa neighborhood. North of the site, across Mission Street, land uses include those associated with the Old U.S. Mint Building and Mint Plaza, including a pedestrian plaza, restaurants, cafes, and a multi-use performance venue, and the two-story S.F. Provident Loan Association building. East of the project site, across Fifth Street, land uses include seven-story parking garage uses, an office building, and the 32-story Intercontinental San Francisco Hotel. South of the site, across Howard Street, land uses include a parking lot and one- to three-story mixed-use buildings. West of the site, adjacent to the Dempster Printing Building, land uses include one-to two-story light industrial-type buildings.

The closest off-site sensitive receptors are those land uses located immediately adjacent to the project boundaries. These receptors include the mixed-use building at 198 Fifth Street, the residential building at 453 Minna Street (currently vacant), and the mixed-use building at 951-953 Mission Street. Project demolition, construction, and renovation activities would occur along the project boundaries adjacent to these uses.

Existing Traffic Noise Levels. The San Francisco Planning Department has created a map of background noise levels² throughout the City, based on noise modeling of baseline traffic from the San Francisco County Transportation Authority travel demand model for the year 2009. The map of background noise levels shows the range of L_{dn} values that occurs along every street in San Francisco. The maps show that the roadway segments of Howard Street, Fifth Street, and Howard Street that are adjacent to the project site have noise levels in excess of 70 dBA L_{dn} . **Figure IV.E-2** shows these background noise levels in the project site vicinity.

To more precisely determine existing noise levels associated with roadway segments adjacent to the project site, existing traffic noise levels were calculated using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (RD-77-108). Traffic data used in the model were

² City of San Francisco, *San Francisco General Plan, Background Noise Levels*, 2009. Available online at www.sfplanning.org/ftp/General_Plan/images/l6.environmental/ENV_Map1_Background_Noise%20Levels.pdf (accessed February 20, 2014).

obtained from the Transportation Impact Study³ prepared by LCW Consulting for the proposed project. The traffic noise model results are available for review at the San Francisco Planning Department.⁴ **Table IV.E-3** shows the traffic noise modeling results along the indicated roadway segments in the project site vicinity under existing conditions without the project.

Table IV.E-3: Existing Traffic Noise Levels, dBA

Roadway Segment	ADT	Center-line to 70 LDN (feet)	Center-line to 65 LDN (feet)	Center-line to 60 LDN (feet)	LDN (dBA) 50 feet from Centerline of Outermost Lane
Mission Street - Sixth Street to Fifth Street	13,900	< 50	60	124	64.1
Mission Street - Fifth Street to Fourth Street	15,200	< 50	63	132	64.5
Mission Street - Fourth Street to Third Street	12,700	< 50	57	117	63.7
Minna Street - Sixth Street to Fifth Street	550	< 50	< 50	< 50	50.3
Natoma Street- Sixth Street to Fifth Street	700	< 50	< 50	< 50	51.3
Howard Street - Sixth Street to Fifth Street	14,100	< 50	< 50	99	62.6
Howard Street - Fifth Street to Fourth Street	16,000	< 50	< 50	107	63.1
Howard Street - Fourth Street to Third Street	21,300	< 50	62	129	64.4
Folsom Street - Sixth Street to Fifth Street	16,000	< 50	65	136	64.7
Folsom Street - Fifth Street to Fourth Street	15,000	< 50	63	131	64.4
Folsom Street - Fourth Street to Third Street	17,200	< 50	68	143	65.0
Sixth Street - Mission Street to Minna Street	20,000	< 50	75	158	65.7
Sixth Street - Minna Street to Natoma Street	21,300	< 50	78	165	66.0
Sixth Street - Natoma Street to Howard Street	21,700	< 50	79	167	66.0
Sixth Street - Howard Street to Folsom Street	21,700	< 50	79	167	66.0
Fifth Street - Mission Street to Minna Street	13,800	< 50	60	124	64.1
Fifth Street - Minna Street to Natoma Street	15,400	< 50	64	133	64.5
Fifth Street - Natoma Street to Howard Street	16,300	< 50	66	138	64.8
Fifth Street - Howard Street to Folsom Street	14,700	< 50	62	129	64.3
Fourth Street - Mission Street to Howard Street	15,700	< 50	65	135	64.6
Fourth Street - Howard Street to Folsom Street	18,300	< 50	71	149	65.3

Note: Shaded cells indicate roadway segments adjacent to or within the project site.

Source: LSA Associates, Inc., February 2014.

³ LCW Consulting, *5M Project Transportation Impact Study*, October 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

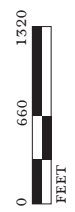
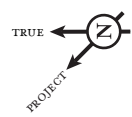
⁴ LSA Associates, Inc., *5M Traffic Noise Modeling*, February 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.



FIGURE IV.E-2

[The model is in decibels A weighted (dBA) averaged over 24 hours and penalized for night yielding - what is called a Ldn.]

- Noise Levels (Ldn)
 - above 70
 - 65 - 70
 - 60 - 65
 - 55 - 60
 - 50 - 55
- Project Boundary



5M Project EIR
Background Noise Levels

SOURCE: CITY OF SAN FRANCISCO, 2014; PLANNING DEPARTMENT MAP LIBRARY, NOISE MAP.

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Based on the modeling results, existing traffic noise levels along Mission, Fifth, and Howard Streets adjacent to the project site would range up to 69 dBA L_{dn} as measured at the nearest existing building façades, some of which are less than 50 feet from the centerline. These modeled traffic noise level results show a strong correlation to the City's background noise level map discussed above.

Regulatory Framework

The following section summarizes the regulatory framework related to noise and vibration, including federal, State, and local plans, policies and standards.

U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. The office issued the Federal Noise Control Act of 1972, which set programs and guidelines to identify and address the effects of noise on public health and welfare, and the environment. Although the primary responsibility of regulating noise was later transferred to State and local governments in 1982, the USEPA provided guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. The USEPA found that to prevent hearing loss over the lifetime of a receptor, the yearly average L_{eq} should not exceed 70 dBA, and the L_{dn} should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance.⁵

Federal Transit Administration – Vibration. To address the human response to groundborne vibration, the Federal Transit Administration (FTA) has established guidelines for maximum-acceptable vibration criteria for different types of land uses for ongoing groundborne vibration

⁵ U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

events.⁶ These guidelines recommend that maximum vibration levels be established from 72 VdB to 80 VdB for residential uses and buildings where people normally sleep; and 75 VdB to 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices). The higher vibration levels in these ranges apply to infrequent events (less than 30 per day) and the lower levels apply to frequent vibration events (more than 70 per day). According to FTA guidelines, a vibration level of 65 VdB is the threshold of perceptibility for humans and 80 VdB is the level for a significant impact to occur.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. The FTA has established guideline thresholds for construction vibration impacts for various structural categories as shown in **Table IV.E-4**.

Table IV.E-4: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (inches/second)	Approximate VdB
I. Reinforced – Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non Engineer Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90

Source: Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May

State of California – Noise Insulation Standards. The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the “State Noise Insulation Standard,” it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of

⁶ Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

The Governor's Office of Planning and Research (OPR) has established land use compatibility guidelines for determining acceptable noise levels for specified land uses. The City of San Francisco has adopted the OPR's land use compatibility guidelines, as discussed below and shown in **Table IV.E-5**.

San Francisco General Plan. San Francisco addresses noise policies in the General Plan's Environmental Protection Element.⁷ This element includes a Transportation Noise section that provides general guidance for reducing transportation noise through "sound land use planning and transportation planning." It also states: "in a fully developed city, such as San Francisco, where land use and circulation patterns are by and large fixed, the ability to reduce the noise impact through a proper relationship of land use and transportation facility location is limited."⁸

The General Plan focuses on the effect of noise on the community due to ground transportation noise sources and establishes the "Land Use Compatibility Chart for Community Noise" for determining when noise reduction requirements should be analyzed, such as providing sound insulation for affected properties. The standards in the land use compatibility standards for community noise

⁷ City and County of San Francisco, *City of San Francisco General Plan*, December 2, 2004. This document is available for review at www.sf-planning.org/ftp/general_plan/index.htm.

⁸ Ibid.

determine the maximum acceptable noise environment for each newly developed land use, and are shown in **Table IV.E-5**. Although **Table IV.E-5** presents a range of noise levels that are considered compatible or incompatible with various land uses, the maximum “satisfactory” noise level is 60 dBA L_{dn} for residential and hotel uses; 65 dBA L_{dn} for schools, classrooms, libraries, churches and hospitals; 70 dBA L_{dn} for playgrounds, parks, offices, retail commercial uses, and noise-sensitive manufacturing/communication uses; and 77 dBA L_{dn} for other commercial uses such as wholesale, certain retail, industrial/manufacturing, transportation, communications, and utilities uses. If these uses are proposed to be located in areas with noise levels that exceed these guidelines, a detailed analysis of noise reduction requirements will typically be necessary prior to final building review and approval.





Overall, the General Plan includes recognition that transportation noise remains a problem and provides guidance to manage incompatible transportation noise levels through various transportation noise-related policies. The City’s background noise levels map identifies the project site to be exposed to traffic noise levels above 70 dBA L_{dn} and noise modeling prepared for the project indicate noise levels would be 69 dBA L_{dn} . According to the City’s General Plan, new development should incorporate noise insulation features if the noise levels exceed the sound level guidelines shown in the land use compatibility chart.

San Francisco Noise Ordinance. The San Francisco Noise Ordinance (Noise Ordinance) regulates both construction noise and stationary-source noise within the City, including noise from transportation, construction, mechanical equipment, entertainment, and human or animal behavior. Found in Article 29, “Regulation of Noise,” of the San Francisco Police Code, the Noise Ordinance addresses noise from construction equipment, nighttime construction work, and noise from stationary mechanical equipment and waste processing activities.⁹ The purpose of the Noise Ordinance is stated in Section 2900:

⁹ City and County of San Francisco, *Article 29 of the San Francisco Police Code, Regulation of Noise*, 2012. Available for review at: [www.amlegal.com/nxt/gateway.dll/California/police/article29regulationofnoise?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:sanfrancisco_ca](http://www.amlegal.com/nxt/gateway.dll/California/police/article29regulationofnoise?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca) (accessed May 21, 2014)

Table IV.E-5: Land Use Compatibility Chart for Community Noise, dBA

LAND USE CATEGORY	Sound Levels and Land Use Consequences (see explanation below)						
	L _{dn} Value in Decibels						
	55	60	65	70	75	80	85
Residential - All Dwellings, Group Quarters	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Transient Lodging - Motels, Hotels	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
School Classrooms, Libraries, Churches, Hospitals, Nursing Homes, etc.	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Auditoriums, Concert Halls, Amphitheaters, Music Shells	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Sports Arenas, Outdoor Spectator Sports	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Playgrounds, Parks	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Golf Courses, Riding Stables, Water-based Recreation Areas, Cemeteries	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Office Buildings - Personal, Business and Professional Services	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Commercial - Retail, Movie Theatres, Restaurants	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Commercial - Wholesale and some Retail, Industrial/Manufacturing, Transportation, Communications and Utilities	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines
Noise Sensitive Manufacturing and Communications	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines

	Specified land use is satisfactory, based upon the assumption that any buildings involved are of conventional construction, without any special noise insulation requirements.
	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is performed and needed noise insulation features included in the design.
	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be performed and needed noise insulation features included in the design.
	New construction or development clearly generally should not be undertaken.

Source: City and County of San Francisco, *City of San Francisco General Plan*, December 2, 2004. This document is available for review at www.sf-planning.org/ftp/general_plan/index.htm.

- Section 2900, Declaration of Policy
 - a. Building on decades of scientific research, the World Health Organization and the U.S. Environmental Protection Agency have determined that persistent exposure to elevated levels of community noise is responsible for public health problems including, but not limited to: compromised speech, persistent annoyance, sleep disturbance, physiological and psychological stress, heart disease, high blood pressure, colitis, ulcers, depression, and feelings of helplessness.
 - b. The General Plan for San Francisco identifies noise as a serious environmental pollutant that must be managed and mitigated through the planning and development process. But given our dense urban environment, San Francisco has a significant challenge in protecting public health from the adverse effects of community noise arising from diverse sources such as transportation, construction, mechanical equipment, entertainment, and human and animal behavior.
 - c. In order to protect public health, it is hereby declared to be the policy of San Francisco to prohibit unwanted, excessive, and avoidable noise. It shall be the policy of San Francisco to maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means, in those areas of San Francisco where noise levels are above acceptable levels as defined by the World Health Organization's Guidelines on Community Noise. This section of the Noise Ordinance limits the noise level produced by waste disposal activities on garbage trucks to 75 dBA when measured at a distance of 50 feet from the equipment. The maximum noise level does not apply to the noise associated with crushing, compacting, dropping, or moving garbage on the truck, but only to the truck's mechanical processing system.

Section 2907, Construction Equipment, and Section 2908, Construction Work at Night, establish noise levels for construction equipment:

- Section 2907 (a) limits noise levels from construction equipment as specified under the ordinance to 80 dBA L_{eq} at 100 feet (or other equivalent sound levels at other distances) from construction equipment between 7:00 a.m. and 8:00 p.m. According to Section 2908, construction work at night (from 8:00 p.m. to 7:00 a.m.) may not exceed the ambient level by 5 dBA at the nearest property plane unless a special permit is granted before such work by the Director of Public Works or the Director of Building Inspection. If night work is in the general public interest, under Section 2908, 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. The provisions of Section 2907(a) do not apply to impact tools and equipment if the impact tools and equipment have intake and exhaust mufflers as recommended by the manufacturers and are approved by the Director of Public Works or the Director of Building Inspection as accomplishing maximum noise attenuation. The noise exemption also does not apply to pavement breakers and jackhammers, which also must be equipped with acoustically attenuating shields or shrouds as recommended by the manufacturers and approved by the Director of Public Works or the Director of Building Inspection as accomplishing maximum noise attenuation.
- Section 2909, Noise Limits. This section of the Noise Ordinance regulates noise from mechanical equipment and other similar sources. (As stated in the ordinance, “No person shall produce or allow to be produced by any machine, or device, music or entertainment, or any combination of same . . .”) This would include all equipment, such as electrical equipment (transformers, emergency generators) as well as mechanical equipment that is installed on commercial/industrial and residential properties. Mechanical equipment operating on commercial or industrial property must not produce a noise level more than 8 dBA above the ambient noise level at the property plane. Equipment operating on residential property must not produce a noise level more than 5 dBA above the ambient noise level at the property boundary. Section 2909 also states in subsection (d) that no fixed (permanent) noise source (as defined by the Noise Ordinance) may cause the noise level inside any sleeping or living room in a dwelling unit on residential property to exceed 45

dBA between 10:00 p.m. and 7:00 a.m. or 55 dBA between 7:00 a.m. and 10:00 p.m. when windows are open, except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

- Section 2910, Variances. This section of the Noise Ordinance empowers the Directors of Public Health, Public Works, and Building Inspection, and the Entertainment Commission, and the Chief of Police to grant variances to noise regulations, over which they have jurisdiction pursuant to Section 2916. All administrative decisions granting or denying variances may be appealed to the San Francisco Board of Appeals.

Impacts and Mitigation Measures

Significance Criteria. Implementation of the proposed project would have a significant effect on noise if it would:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Result in exposure of persons to or generation of excessive groundborne vibration or ground-borne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; and
- Be substantially affected by existing noise levels.

A project would also normally result in a significant impact with respect to noise if it would be located within an airport land use plan area, or, where such a plan has not been adopted, in an area within 2 miles of a public airport or public use airport, or if the project would expose people residing or working in the area to excessive noise levels. Additionally, for a project located in the vicinity of a

private air strip, the project would normally have a significant effect if it would expose people residing or working in the project area to excessive noise levels. The project site is not within an airport land use plan, nor is it in the vicinity of a private airstrip. These topics have been addressed in the Initial Study prepared for this project and included as Appendix A; therefore, these topics are not analyzed in this EIR.

Approach to Analysis. As discussed in Chapter II, Project Description, two project options are analyzed in this EIR: the Office Scheme and the Residential Scheme. Under both schemes, the proposed project would result in the construction of new active ground floor space (including office, retail, educational, and cultural uses), office uses, residential dwelling units, and open space. In general, this analysis focusses on the Office Scheme, which represents the larger development envelope of the two schemes. However, elements of the Residential Scheme that would differ in noise impacts from the Office Scheme are identified and described.

In addition, as described in Chapter II, the proposed project would also include programming elements that are anticipated to include art and cultural events, other public events, and collaborations among businesses and organizations that use the commercial space. Events on the project site could include outdoor film screenings, night markets, food events, streets fairs or festivals, lecture series, and theater performances during weekdays and weekends. These events would be considered new noise sources with potential impacts if the project is implemented.

Methodology. Ambient noise levels in the vicinity of the project site are influenced primarily by traffic along Fifth and Mission Streets. According to the San Francisco City-wide background noise levels map,¹⁰ noise levels along Mission, Fifth, and Howard Streets, adjacent to the project site, range up to 70 dBA L_{dn} or greater. According to the City's land use compatibility standards, the maximum satisfactory noise level for new residential uses without the need to incorporate noise insulation into

¹⁰ City and County of San Francisco, *San Francisco General Plan, Background Noise Levels*, 2009. This document is available for review at: www.sfplanning.org/ftp/General_Plan/images/16.environmental/ENV_Map1_Background_Noise%20Levels.pdf (accessed February 20, 2014).

a project is 60 dBA L_{dn} . The guidelines state that new residential development should be generally discouraged at noise levels 65 dBA L_{dn} and above (new residential development in areas subject to noise levels between 60 and 70 dBA L_{dn} should be undertaken “only after a detailed analysis of the noise mitigation requirements is made and needed noise insulation features included in the design”).

Temporary, construction-related noise impacts associated with the proposed project are analyzed in this EIR to determine compliance with the Noise Ordinance, which is required by law. This analysis also identifies potential operational noise impacts associated with implementation of the proposed project. Implementation of the project will result in increased average daily trips on local roadways in the project site vicinity. In addition, the project would introduce new fixed, stationary noise sources to the local noise environment (e.g., building mechanical systems, standby power generator, trash removal, ventilation equipment). The following section also analyzes the project’s compatibility with noise insulation standards in Title 24 of the California Code of Regulations, mechanical equipment and other noise limitation requirements in the Noise Ordinance, including Section 2909(d), and performance standards for noise compatibility in the San Francisco General Plan Land Use Compatibility Guidelines.

Groundborne vibration impacts associated with the proposed project are described using a general assessment methodology established in the FTA Transit Noise and Vibration Guidelines. A general assessment uses a reference level for vibration from typical construction equipment and measured levels from MUNI light rail vehicles with standardized propagation calculations to predict vibration levels at a given distance.

Impact Analysis. The following section presents a discussion of the impacts related to noise that could result from implementation of the proposed project. Where appropriate, mitigation measures are identified in order to reduce project-related noise impacts to less-than-significant levels.

Construction

Impact M-NO-1: Construction of the Office Scheme or Residential Scheme would generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance and would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Less Than Significant with Mitigation)

Demolition of existing buildings and project construction/renovation activities are anticipated to begin in 2016. Construction/renovation of the first phase of project buildings is anticipated to take approximately 48 months. In 2019, and extending over approximately 60 months, the remaining proposed buildings would be demolished/constructed. Detailed plans for construction activities have not yet been developed; however for purposes of this analysis, project construction is expected to entail the use of a mix of construction equipment typical of large development projects, including bulldozers, jackhammers, graders, and pile drivers.

Two types of short-term noise impacts would occur during the demolition and construction phases of the proposed project. The first is the increase in traffic flow on local streets, associated with the transport of workers, equipment, and materials to and from the project site. The pieces of heavy equipment for demolition and construction would be moved to the site and remain for the duration of each construction phase. An increase in traffic flow on the surrounding roads due to construction traffic is expected. However, the noise levels associated with trucks arriving at and departing from the project site would be short-term and intermittent. In addition, average daily construction trips would be less than 10 percent of the existing background traffic volumes on access routes, and therefore would not result in a perceptible increase in average daily traffic noise levels.

The second type of short-term noise impact is related to the noise generated by heavy equipment operating on the project site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels

surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. **Table IV.E-6** lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet and 100 feet between the equipment and a noise receptor.

Table IV.E-6: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet) ^a	Maximum Sound Levels for Analysis (dBA at 100 feet) ^b
Impact Pile Driver	Yes	95	89
Auger Drill Rig	No	85	79
Vibratory Pile Driver	No	95	89
Jackhammer	Yes	85	79
Pneumatic Tool	No	85	79
Pump	No	77	71
Scraper	No	85	79
Crane	No	85	79
Portable Generator	No	82	76
Roller	No	85	79
Dozer	No	85	79
Tractor	No	84	78
Front-End Loader	No	80	74
Backhoe	No	80	74
Excavator	No	85	79
Grader	No	85	79
Air Compressor	No	80	74
Dump Truck	No	84	78
Concrete Mixer Truck	No	85	79
Pickup Truck	No	55	49

^a Source: FHWA, *Highway Construction Noise Handbook*, August 2006. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

^b Source: LSA Associates, Inc., 2014.

As shown in **Table IV.E-6**, the maximum noise level generated by bulldozers, hydraulic excavators, and graders is anticipated to be 85 dBA L_{max} at 50 feet or 79 dBA L_{max} at 100 feet from the earthmover. The maximum noise level generated by tractors and dump trucks is approximately 84 dBA L_{max} at 50 feet or 78 dBA L_{max} at 100 feet from this operating equipment. Impact pile driving could be used

during project construction. With each doubling of the number of sound sources of equal strength, the noise level increases by 3 dBA (e.g., two excavators operating at 85 dBA yield a total noise level of 88 dBA). Assuming that each piece of construction equipment operates simultaneously, the worst case combined noise level during the loudest phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area or 85 dBA L_{max} at a distance of 100 feet.

The closest off-site sensitive receptors are those land uses located immediately adjacent to the project boundaries. During demolition and construction activities, if multiple pieces of heavy construction equipment operate simultaneously within 5 feet of off-site structures, these façades could be exposed to noise levels ranging up to 105 dBA L_{max} . Such structures would include the mixed-use building at 198 Fifth Street, the residential building at 453 Minna Street, and the mixed-use building at 951-953 Mission Street. In addition, Building M-2, which would be constructed as part of the first construction phase, would contain sensitive receptors that would be exposed to project-related construction noise if the building is occupied at that time.

The nearest façades of buildings located north of Mission Street, approximately 75 feet from the nearest project border, could be exposed to noise levels ranging up to 87.5 dBA L_{max} when demolition and construction activities occur at the nearest project border. Similarly, buildings located on the east side of Fifth Street across from the project site, also approximately 75 feet from the nearest project border, could also be exposed to noise levels ranging up to 87.5 dBA L_{max} when multiple pieces of heavy construction equipment operate near the project boundary. The closest buildings south of Howard Street are located approximately 80 feet from the nearest project border, and would therefore be exposed to noise levels ranging up to 87 dBA L_{max} when multiple pieces of heavy construction equipment operate near the project boundary.

Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of the Police Code), amended in November 2008. The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Impact tools (e.g., jackhammers, pile drivers, and impact wrenches) must have intake and

exhaust mufflers and be equipped with acoustically attenuating shields or shrouds to the satisfaction of the director of Public Works or the Director of Building Inspection. Section 2908 of the Ordinance prohibits construction work between 8:00 p.m. and 7:00 a.m. if the noise would exceed the ambient noise level by 5 dBA at the project property line, unless a special permit is authorized by the Director of Public Works or the Director of Building Inspection. The project must comply with regulations set forth in the Noise Ordinance.

Because of the close proximity of nearby off-site sensitive receptors and because residential units may be occupied prior to completion of all phases of construction, general construction noise control measures must be implemented to reduce potential construction noise impacts to a less-than-significant level.

Mitigation Measure M-NO-1: To ensure that project noise from construction is minimized to the maximum extent feasible, the project sponsor shall prepare and implement a noise reduction program prepared by a qualified acoustical consultant to reduce construction noise impacts to the maximum extent feasible, subject to review and approval by the Planning Department and Department of Building Inspection prior to the issuance of project-specific permits.

The noise reduction program shall include the following measures:

- To reduce impacts associated with pile driving, a set of site-specific noise attenuation measures shall be implemented under the supervision of a qualified acoustical consultant during the project construction period. These attenuation measures shall include as many of the following control strategies, and any other effective strategies, as feasible:
 - The project sponsor shall require the construction contractor to erect temporary plywood noise barriers along the boundaries of the project site to shield potential sensitive receptors and reduce noise levels;

- The project sponsor shall require the construction contractor to implement “quiet” pile-driving technology (such as predrilling of piles, sonic pile drivers, and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of technical and structural requirements and conditions;
- The project sponsor shall require the construction contractor to monitor the effectiveness of noise attenuation measures by taking noise measurement; and
- The project sponsor shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses.
- The following additional construction-period measures shall be implemented:
 - The project sponsor shall 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).
 - The project sponsor shall require the general contractor to locate stationary noise sources (such as compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as 5 dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.
 - The project sponsor shall 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, exhaust mufflers on the compressed air exhaust apparatuses shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.

- The project sponsor shall include noise control requirements in specifications provided to construction contractors. Such requirements could include, but not be limited to, performing all work in a manner that minimizes noise to the extent feasible; use of equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants, as feasible; and selecting haul routes that avoid residential buildings inasmuch as such routes are otherwise feasible.
- Prior to the issuance of the building permit, along with the submission of construction documents, the project sponsor shall submit to the Planning Department and Department of Building Inspection a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include: 1) a procedure and phone numbers for notifying the Department of Building Inspection, the Department of Public Health, and the Police Department of complaints (during regular construction hours and off-hours); 2) a sign posted on-site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction; 3) designation of an on-site construction complaint and enforcement manager for the project; and 4) 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 noise levels of 90 dBA or greater) about the estimated duration of the activity and associated control measures that will be implemented to reduce noise levels.

The project sponsor indicates that project construction would be dictated by the market and demand for space, and would likely consist of concurrent construction of multiple buildings. However, there is no specific project phasing scheme. Due to this uncertainty, it is speculative to assume the precise combination of equipment that will be used on the project site at any given time during project construction, and as such it is speculative to estimate noise levels in the project vicinity during construction. However, implementation of this multi-part measure would provide quantifiable reductions of construction noise levels, by generally lowering construction noise by 5 to 10 dBA, depending on effectiveness. The Federal Highway Administration (FHA) has identified best practices

for calculating the estimated reduction from shielding.¹¹ Based on FHA documentation, the following reductions can be achieved:

- 3 dBA reduction for a noise barrier or other obstruction (like a dirt mound) that breaks the line-of-site between the noise source and the receptor.
- 8 dBA reduction if the noise source is completely enclosed or completely shielded with a solid barrier located close to the source. 5 dBA reduction if the enclosure and/or barrier have some gaps in it.
- 10 dBA reduction if the noise source is completely enclosed and completely shielded with a solid barrier located close to the source.
- 15 dBA reduction if a building stands between the noise source and receptor and completely shields the noise source.
- 5 dBA reduction if noise source is enclosed or shielded with heavy vinyl noise curtain material (e.g., SoundSeal BBC-13-2 or equivalent).

As shown in **Table IV.E-6**, maximum noise levels for individual pieces of non-impact device equipment would be less than 80 dBA at a distance of 100 feet, and a worst-case scenario of all equipment combined would be 85 dBA L_{max} at 100 feet. With implementation of **Mitigation Measure M-NO-1**, the proposed project would implement feasible noise control measures to reduce noise levels of the simultaneous operation of multiple equipment pieces during the noisiest phase of construction to comply with the Noise Ordinance and would result in a less-than-significant impact with respect to construction noise impacts at sensitive receptor locations.

Impact M-NO-2: Construction of the Office Scheme or Residential Scheme would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. (Less Than Significant with Mitigation)

¹¹ Federal Highway Administration, *Roadway Construction Noise Model, User's Guide*. January 2006. Available online at www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

The proposed project could require driven or drilled steel piles to support the building foundation (construction details have not yet been finalized but it is assumed that pile driving would be required for the purposes of this analysis). Impact pile driving would be limited to the first several weeks of the building construction phase, during which potential groundborne vibration and noise impacts would occur. Other proposed project construction phases, including demolition and excavation and construction-related truck trips, would also temporarily generate groundborne vibration in the project vicinity. Perceptible vibration from truck trips would increase along the routes to access the site, notably along Fifth, Mission, and Howard Streets. However, vibration from on-road mobile sources over rough surfaces tends to occur for only brief periods, is intermittent in nature, and would not lead to excessive vibration levels. With the exception of pile driving, the groundborne vibration levels caused by most construction activities would not be likely to cause structural damage but could be considered an annoyance by occupants of adjacent properties.

On-site demolition and excavation activities would result in varying degrees of temporary groundborne vibration with the highest levels expected during demolition and the installation of piles. Impulsive sources, including those used for demolition and impact pile driving, would be most likely to produce detectable vibration within nearby buildings. Continuous sources, such as vibratory pile drivers or drill rigs, could create resonant responses leading to groundborne noise in buildings. Heavy construction equipment (e.g., large bulldozers and loaded trucks) frequently generates between 85 and 87 VdB at 25 feet, while pile driving may generate between 104 and 112 VdB at 25 feet from the source.

Vibration energy decreases rapidly as the distance between the activity and vibration-sensitive receptor increases. This means that pile driving would not normally cause a level of vibration exceeding that caused by most construction activities and would not be likely to cause structural damage. However, vibration associated with pile driving could be considered an annoyance by occupants of adjacent properties. Pile driving would most adversely affect the sensitive residential uses that are 75 feet from the project site boundary (951-953 Mission Street).

There are no adopted State or local policies or standards for groundborne vibration or noise. As identified in the “Regulatory Framework” discussion above, the FTA and Caltrans have published guidance relative to vibration impacts. Construction-related vibration over 0.25 inches/second PPV would trigger a potential structural impact for older or historically significant buildings, and over 80 VdB would be a level where a significant vibration impact could be considered to occur due to human annoyance. The potential for human annoyance would occur over a greater area of impact than the potential for structural damage.

Pile driving, and associated groundborne vibration, would be most likely to adversely affect the sensitive residential uses adjacent to the site, and specifically, the five buildings identified in **Table IV.C-4** (Section IV.C, Cultural Resources). Due to the scope of construction and the proximity of the five historical resources, there is a potentially significant impact due to ground borne vibrations from construction, especially if pile driving is used as a construction method.

Feasible control measures to reduce the potential impact of human annoyance from excessive groundborne vibration during construction would be applicable to the proposed project. Implementation of **Mitigation Measure M-NO-1** would reduce this impact to a less-than-significant level by requiring use of “quiet” pile insertion techniques that would reduce vibration levels and duration (by pre-drilling piles, using sonic pile drivers, and using more than one pile driver to shorten the duration) where feasible. Additionally, implementation of **Mitigation Measures M-CP-2a and M-CP-2b** as described in Section IV.C., Cultural Resources, would reduce vibration impacts to nearby sensitive structures. Therefore, this impact would be less than significant.

Mitigation Measure M-NO-2: Implement Mitigation Measures M-NO-1, M-CP-2a, and M-CP-2b.

With the recommended mitigation, the project sponsor would be required to implement feasible vibration control measures, which would result in a less-than-significant impact with respect to exposure of persons and the generation of excessive groundborne vibration during construction.

Operation

ImpactM-NO-3: Operation of the Office Scheme or Residential Scheme would generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance and would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (Less Than Significant with Mitigation)

Under both the Office Scheme and Residential Scheme, the proposed project would introduce additional noise sources to the area, including stationary noise sources such as mechanical equipment (e.g., emergency generators, building heating, ventilation, and air conditioning (HVAC) systems, backup generators, and fire pumps), parking lot activities, roadway traffic noise, and special events.

The proposed project would result in a total increase of 730 peak hour vehicle trips under the Office Scheme and 706 peak hour trips under the Residential Scheme. This level of traffic would not substantially increase traffic noise on the surrounding roadways when compared to the existing total peak hour traffic of more than 1,300 trips along both Fifth and Mission Streets. In general traffic must double in volume to produce a noticeable increase in noise levels. Traffic noise modeling performed for the project indicates that traffic noise levels would increase less than 1 dBA for all roadways in the vicinity of the project site, with the exception of Minna Street between Sixth and Fifth Streets. Existing traffic noise levels along this roadway segment are 50.3 dBA L_{dn} without the project and would increase to 55.9 dBA L_{dn} with the project. This would be a perceptible increase; however, the existing noise environment on this segment of roadway is influenced by traffic on Mission and Sixth Streets, which would contribute noise levels greater than 55 dBA L_{dn} . Therefore, the noise increase on Minna Street would not be significant.

Other noise related to project operations, such as project-related deliveries and parking structure activity would be similar to existing noise levels from current activities around the project site. Because the site is located in an urban environment with high traffic volumes along Mission and Fifth Streets, other types of project-related activities (i.e., deliveries and parking structure activity)

associated with the project would not be expected to result in a significant change in ambient noise levels.

As described in Chapter II, Project Description, the project site may be used for special events, which could be a source of noise. However, any noise from such events would be regulated under Section 2909 of the City's Noise Ordinance, which would limit noise generating activities.

New mechanical devices associated with building HVAC systems and backup generators would be installed as part of the project. The operation of this equipment would be subject to Section 2909 of Article 29 (the Noise Ordinance) of the Police Code, which limits noise from building operations. Standard design features (e.g., installation of relatively quiet models, orientation or shielding to protect sensitive uses, installation within an enclosure) are available to ensure that such equipment would not have a significant noise effect. Sound attenuating enclosures can reduce operational noise by up to 20 dBA. Additionally, noise levels attenuate with distance; therefore, locating equipment away from noise-sensitive land uses would also reduce noise impacts. Orientation of the equipment may also help reduce the noise emitted by the equipment, with the noisiest side facing away from the nearest sensitive receivers. Shielding or blocking the line of site from a receptor to a noise source is also effective in minimizing impacts from noise sources. Shielding can result in a noise reduction of up to 5 dBA depending on the line-of-site between the source and the receiver. Therefore, with implementation of **Mitigation Measure M-NO-3**, requiring incorporation of the above-mentioned design features, noise impacts associated with new mechanical devices would be reduced to a less-than-significant level.

Mitigation Measure M-NO-3: The project sponsor shall incorporate standard industrial noise control measures for stationary equipment. Such measures may include enclosing equipment in sound- attenuating structures, using buildings to shield these noise sources from sensitive receptors, or mounting equipment on resilient pads to reduce both groundborne and airborne vibration noises. The project sponsor shall ensure that operational noise from stationary sources would not exceed the thresholds set forth in the Noise Ordinance for fixed source

noise. The project sponsor shall use standard design features/approaches, including installation of relatively quiet models of mechanical equipment, installation of exhaust silencers, orientation or shielding to protect sensitive uses, and installation within enclosures when necessary to reduce stationary, or fixed source, noise levels to below the established threshold when measured at the property line of the nearest affected sensitive receptor.

ImpactM-NO-4: New residential uses and open space uses developed under either the Office Scheme or Residential Scheme may be affected by substantial existing noise levels. (Less Than Significant with Mitigation)

The Office Scheme and Residential Scheme would introduce new noise-sensitive residential uses to a densely developed urban neighborhood with elevated ambient noise levels. Sleep disturbance can occur when continuous interior noise levels exceed 30 dBA or when intermittent interior noise levels exceed 45 dBA. The General Plan Land Use Compatibility Guidelines for Community Noise (see **Table IV.E-5**) indicate that any new residential construction or development in areas with noise levels above 60 dBA (L_{dn}) should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. In areas where exterior noise levels exceed 65 dBA (L_{dn}), new residential construction or development is generally discouraged, but if it does proceed, a detailed analysis of noise reduction requirements must be undertaken and needed noise insulation features included in the design of such development.

Since ambient noise measurements indicate that exterior noise levels on the boundaries of the project site are up to 70 dBA, the proposed new residential uses adjacent to Mission and Fifth Streets could be substantially adversely affected by existing noise levels. Because the proposed project would result in the development of attached units (i.e., multi-family residential units), the new residential development would be subject to the noise insulation standards in Title 24 of the California Code of Regulations. This State standard requires meeting an interior noise level of 45 dBA L_{dn} in any habitable room.

Achieving compliance with the Title 24 standards would ensure sufficient noise insulation for the new residential uses that would be developed as part of the project and would result in an interior noise level consistent with the General Plan Land Use Compatibility Guidelines for Community Noise (see **Table IV.E-5**) for noise-sensitive development within the project site. The DBI enforces the Title 24 requirements as part of the building permit and inspection process. Due to the elevated levels of existing ambient noise, the proposed project, under both the Office Scheme and Residential Scheme, would need to achieve a 25 dBA in exterior-to-interior noise reduction through building and window insulation to comply with applicable performance standards and achieve interior noise levels of 45 dBA. Achieving 25 dBA in exterior-to-interior noise reduction would ensure that interior noise levels for the new residential uses would not be in excess of Title 24 of the California Code of Regulations (Building Code), San Francisco Noise Ordinance (per Police Code Section 2909(d)), or General Plan Land Use Compatibility Guidelines. New residential uses would experience a potentially significant impact due to existing outdoor noise levels; however, compliance with Title 24 standards for interior noise would ensure sufficient exterior-to-interior noise reduction.

Achieving this level of exterior-to-interior noise reduction is feasible using typical northern California building standards. In order for exterior windows and doors to remain closed for extended periods of time to meet the required interior sound insulation, residential units would need an alternate form of ventilation such as air conditioning or mechanical ventilation.

Mitigation Measure M-NO-4: All residential units shall be designed to meet the interior noise standard of 45 dBA L_{dn} so that windows and doors can remain closed, and an alternate form of ventilation shall be provided, such as mechanical ventilation or air conditioning. Once design plans have been finalized, the project sponsor shall prepare a detailed final acoustical analysis report with building design noise reduction requirements identified that would provide an interior noise level of 45 dBA. This report shall be submitted to the Department of Building Inspection (DBI) prior to issuance of a building permit.

ImpactM-NO-5: The Office Scheme or Residential Scheme would not expose people to excessive groundborne vibration or groundborne noise levels and the proposed project’s new residential uses would not be substantially affected by existing vibration levels. (Less Than Significant)

Locations near the BART/MUNI subway experience up to 30 train pass-bys per peak hour, and the groundborne vibration from each train pass-by can be intrusive for residential uses. The proposed project would not introduce new residential uses near a source of groundborne vibration or groundborne noise that could disturb or annoy new residents who are vibration sensitive. The proposed project would be located approximately 650 feet from the BART/MUNI subway; therefore, the proposed project’s residential uses would experience a less-than-significant impact from groundborne vibration and groundborne noise.

Cumulative Impacts. This section discusses the cumulative impacts to the noise environment that could result from the project in conjunction with past, present, and reasonably foreseeable future projects. Reasonably foreseeable future development in the immediate vicinity of the project site consists of the projects shown in **Table II-8** in Chapter II, Project Description, along with implementation of the Central SoMa Plan (currently in draft form). Reasonably foreseeable cumulative development in the vicinity of the project site would be subject to the Noise Ordinance enforced by DBI and the Police Department, as well as Planning Department development standards. Some of the new development expected to occur in the vicinity of the project site would be likely to occur at the same time that the proposed project construction activities are planned. Additionally, future projects would contribute to cumulative traffic noise conditions. Future traffic conditions take into account both the future development expected in the project vicinity, as well as the expected growth in housing and employment for the remainder of San Francisco and the nine-county Bay Area.

Impact C-NO-1: Construction of the proposed project, in combination with other past, present, and reasonably foreseeable future projects in the project vicinity, would result in significant temporary or periodic cumulative increases in ambient noise or vibration levels in the project vicinity above levels existing without the proposed project. (Less Than Significant with Mitigation)

Construction activity in the vicinity of the project, including demolition, excavation, and building construction activities, could occur in conjunction with other planned and foreseeable projects. However, such activities would be conducted in compliance with the San Francisco Noise Ordinance, which would reduce cumulative noise levels. Noise from project-related construction truck trips could combine with noise from trucks associated with the other nearby development projects. However, due to the urban nature of the area and existing ambient daytime noise levels from traffic on roadways that is adjacent to and near the development sites, any cumulative increase in ambient noise levels from mobile construction related traffic would be brief, moderate, and intermittent in nature.

Project-generated construction activities would be required to meet all applicable construction noise standards established in the Noise Ordinance (Article 29 of the Police Code) and would be subject to enforcement of the Noise Ordinance by DBI and the Police Department. These requirements and implementation of **Mitigation Measure M-NO-1** would minimize the incremental contribution of the project to short-term exposure of sensitive receptors to increased construction noise.

Therefore, the impacts of the project on cumulative construction-related noise levels would not be considered significant.

With implementation of **Mitigation Measure M-NO-1**, the project sponsor would be required to implement feasible cumulative construction noise control measures, and the contribution of the project to cumulative construction noise impacts would be reduced to a less-than-significant level.

Impact C-NO-2: Operation of the Office Scheme or Residential Scheme in combination with other past, present, and reasonably foreseeable future projects in the project vicinity would not result in a significant cumulative permanent increases in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

Each development project in the vicinity of the project site would generate operational noise and could contribute to an overall increase in ambient noise levels in the area. The noise environment of the area would be influenced by traffic increases and stationary or fixed sources of noise that would be developed as part of past, present, and reasonably foreseeable future development, such as new heating and ventilation equipment, emergency power generators, and other mechanical equipment.

As discussed in the impact section above, the proposed project would result in less-than-significant impacts related to stationary noise, with implementation of the identified mitigation measures. As with the proposed project, all of the cumulative projects would be expected to include standard measures related to incorporation of appropriate noise insulation design features (e.g., installation of relatively quiet models of mechanical equipment, orientation or shielding to protect sensitive uses, and installation within an enclosure) into their respective project designs so as to comply with the City's Noise Ordinance, which would ensure that noise impacts from stationary and operational sources would be less than significant. These measures would ensure that noise impacts from stationary and operational noise sources in the cumulative scenario would be less than significant.

Implementation of the proposed project and past, present, and reasonably foreseeable future development projects would increase traffic noise levels in an environment that already experiences elevated ambient noise levels. Traffic noise on Fifth Street in the project vicinity would be 1.9 to 2.2 dBA higher than existing traffic noise levels, based on future 2040 cumulative traffic increases. The traffic noise model results are available for review at the San Francisco Planning Department.¹² Traffic

¹² LSA Associates, Inc., *5M Traffic Noise Modeling*, February 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

noise levels on Mission Street would increase 0.6 dBA under 2040 cumulative conditions. Other streets in the immediate vicinity of the site would experience smaller noise level increases in the 2040 cumulative scenario. The increases in traffic in the cumulative condition would not be expected to produce a noticeable increase in noise levels. Therefore, the cumulative impact of traffic-generated noise levels in the project vicinity would not cause sensitive receptors to be substantially affected by noise levels, and this impact would not be significant. The contribution of noise from project-generated roadway traffic to cumulative traffic noise levels in the project vicinity would not be cumulatively considerable in this context.

Project-related operational noise would be less than significant with implementation of **Mitigation Measure M-NO-3** and compliance with applicable performance standards in the Noise Ordinance. As a result, the project would not result in a considerable contribution to significant cumulative ambient noise levels. This impact would be less than significant, and no additional mitigation is required.

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F. AIR QUALITY

This section evaluates the potential air quality and health risks and hazards impacts that would result from short-term construction and long-term operation of the proposed project. It identifies both project-level and cumulative environmental impacts, as well as feasible mitigation measures that could reduce or avoid the identified impacts.

Setting

This subsection describes the air quality setting of the project site.

Regional Air Quality. The project site and vicinity is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is the regional agency with jurisdiction for regulating air quality within the nine-county San Francisco Bay Area Air Basin (SFBAAB), which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties. As part of the region's efforts to achieve and maintain federal and state ambient air quality standards, the BAAQMD maintains the regional emission inventory of air pollution sources, including stationary, mobile, and area-wide sources. The BAAQMD is also responsible for issuing permits to construct and operate stationary sources of pollutants, and for implementing the programs to review the air quality impacts of new stationary sources.

In addition to air pollution source, the regional prevailing winds, topography, and weather, including sunlight and high temperatures, also play a role in regional air quality problems. Winds from the northwest, west-northwest, west, and west-southwest dominate at the project site such that area-wide emissions tend to be carried eastward over San Francisco Bay. Warmer temperatures create the conditions that can increase ozone formation. In addition, higher temperatures would likely result in increased electricity use to power air conditioners and refrigerators, which can cause increased operation of the region's fossil-fuel-fired power plants to meet demand.

Climate, Topography, and Meteorology. The San Francisco Bay Area has a Mediterranean climate characterized by mild, dry summers and mild, moderately wet winters (about 90 percent of the

annual total rainfall occurs during the November to April period); moderate daytime onshore breezes, and moderate humidity. The climate is dominated by a strong, semi-permanent, subtropical high-pressure cell over the northeastern Pacific Ocean. Weather is moderated by the adjacent oceanic heat reservoir that leads to fog. In summer, the northwesterly winds are drawn into the interior valleys through the Golden Gate and over the lower topography of the San Francisco Peninsula. This channels wind so that it sweeps eastward and widens downstream across the region. In winter, periods of storminess tend to alternate with periods of stagnation and light winds.

Criteria Air Pollutants. As required by the 1970 Federal Clean Air Act, the U.S. Environmental Protection Agency (USEPA) initially identified six criteria air pollutants that are pervasive in urban environments and for which State and federal health-based ambient air quality standards have been established. The USEPA calls these pollutants *criteria air pollutants* because they have regulated them by developing specific public-health-based and welfare-based criteria for setting permissible emission levels. Ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM), and lead are the six criteria air pollutants originally identified by USEPA. Since that time, subsets of PM have been identified for which permissible levels have been established. These include particulate matter measuring 10 microns in diameter or less (PM₁₀) and particulate matter measuring 2.5 microns in diameter or less (PM_{2.5}).

The BAAQMD's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the SFBAAB. The BAAQMD monitoring station at 16th and Arkansas Streets in San Francisco's lower Potrero Hill area is the closest monitoring station to the project site. **Table IV.F-1** is a five-year summary of the highest annual criteria air pollutant concentrations collected at that monitoring station.¹ This monitoring data is compared with the most stringent State and federal air quality standards, which are discussed further under Regulatory Framework.

¹ Data from this location generally describes pollutant levels throughout San Francisco. These levels may vary depending on distance from key emission sources and local meteorology. However, the BAAQMD monitoring network does provide a reliable picture of pollutant levels over time.

Table IV.F-1: Summary of Potrero Hill Air Quality Monitoring Data (2009–2013)

Pollutant	Most Stringent Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured				
		2009	2010	2011	2012	2013
Ozone						
Days 1-hour std. exceeded	>90 ppb ^a	0	0	0	0	0
Max. 1-hour conc. (ppb)		72	79	70	69	69
Days 8-hour std. exceeded	>70 ppb ^a	0	0	0	0	0
Max. 8-hour conc. (ppb)		56	51	54	48	59
Carbon Monoxide (CO)						
Days 1-hour std. exceeded	>20 ppm ^a	0	0	0	0	0
Max. 1-hour conc. (ppm)		4.3	1.8	1.8	2.0	1.8
Days 8-hour std. exceeded	>9 ppm ^a	0	0	0	0	0
Max. 8-hour conc. (ppm)		2.9	1.4	1.2	1.2	1.4
Particulate Matter (PM₁₀)						
Days 24-hour std. exceeded	>50 µg/m ^{3 a, c}	0	0	0	1	0
Max. 24-hour conc. (µg/m ³)		36	40	46	51	44
Annual average (µg/m ³)	>20 µg/m ^{3 a, c}	18.7	19.9	19.5	17.4	18.3
Particulate Matter (PM_{2.5})						
Days 24-hour std. exceeded	>35 µg/m ^{3 c}	1	3	2	1	2
Max. 24-hour conc. (µg/m ³)		35.6	45.3	47.5	35.7	48.5
Annual average (µg/m ³)	>12 µg/m ^{3 a, d}	9.7	10.5	9.5	8.2	10.1
Nitrogen Dioxide (NO₂)						
Days 1-hour std. exceeded	>100 ppb ^{b, e}	0	0	0	1	0
Max. 1-hour conc. (ppb)		59	93	93	124	73
Annual average (ppb)	>30 ppb ^a	15	13	14	13	14
Sulfur Dioxide (SO₂)						
Days 1-hour std. exceeded	>75 ppb ^{b, c}	N/A	N/A	N/A	N/A	N/A
Max. 1-hour conc. (ppb)		N/A	N/A	N/A	N/A	N/A
Days 24-hour std. exceeded	>40 ppb ^a	N/A	N/A	N/A	N/A	N/A
Max. 24-hour conc. (ppb)		N/A	N/A	N/A	N/A	N/A

^a State standard, not to be exceeded.

^b Federal standard, not to be exceeded.

^c Based on a sampling schedule of one out of every six days, for a total of approximately 60 samples per year.

^d In March 2013 the USEPA implemented a new annual PM_{2.5} standard of 12.0 µg/m³.

^e New 1-hour federal standards introduced in 2010.

Notes:

Bold values indicate exceedance of applicable standard. N/A indicates that data is not available. An exceedance is not necessarily a violation of the standard, and only persistent exceedances lead to designation of an area as nonattainment.

conc = concentration

ppm = parts per million

ppb = parts per billion

µg/m³ = micrograms per cubic meter

> = greater than

Source: Bay Area Air Quality Management District, *Bay Area Air Pollution Summary, 2009–2013*. Available online at www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx (accessed May 13, 2014).

Ozone. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOx). The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.² **Table IV.F-1** shows that, according to BAAQMD published data, the most stringent applicable standards (the State 1-hour standard of 90 parts per hundred billion (ppb) and State 8-hour standard of 70 ppb) were not exceeded at the Potrero Hill monitoring station between 2009 and 2013.

Carbon Monoxide. Carbon monoxide is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard accelerations. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in **Table IV.F-1**, no exceedances of State (most stringent) CO standards were recorded at the Potrero Hill Monitoring Station between 2009 and 2013.

Particulate Matter (PM₁₀ and PM_{2.5}). Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Coarse PM (PM₁₀) consists of particles that are 10 microns or less in diameter. A subset of PM₁₀, PM_{2.5}, consists of particles 2.5 microns or less in diameter. In the Bay Area, motor vehicles generate about one-half of

² Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*. May 2011 and updated May 2012 (hereinafter "BAAQMD, *CEQA Air Quality Guidelines*"). Available online at www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx (accessed May 15, 2014).

the SFBAAB's particulates through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities, such as construction (described further in fugitive dust section below), are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects.³

According to the California Air Resources Board (ARB), studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks," and studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function in children." The ARB also reports that Statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California.⁴ Studies by the BAAQMD indicate that exposure to PM_{2.5} remains the leading public health risk, and contributor to premature death, from air pollution in the Bay Area, contributing to approximately 1,700 premature deaths per year.⁵ High levels of particulates can exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increase emergency room visits and hospital admissions.⁶

In April 2011, the USEPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*, "Particulate Matter Policy Assessment." In this document, USEPA staff

³ Bay Area Air Quality Management District, *Planning, Rules and Research, Particulate Matter*, May 2013. Available online at www.baaqmd.gov/Divisions/Planning-and-Research/Particulate-Matter.aspx (accessed July 21, 2014).

⁴ California Air Resources Board, "Review of the Ambient Air Quality Standards for Particulate Matter and Sulfates" *Staff Report*, May 2002. Available online at www.arb.ca.gov/carbis/research/aaqs/std-rs/pm-final/ch7-9.pdf (accessed May 15, 2014).

⁵ Bay Area Air Quality Management District, *Understanding Particulate Matter: Protecting Public Health in the San Francisco Bay Area*, November 2012. Available online at www.baaqmd.gov/~media/Files/Planning%20and%20Research/Plans/PM%20Planning/ParticulatesMatter_Nov%207.ashx (accessed July 21, 2014).

⁶ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2011.

concludes that the current federal annual PM_{2.5} standard of 15 µg/m³ should be revised to a level within the range of 13 to 11 µg/m³, with evidence strongly supporting a standard within the range of 12 to 11 µg/m³.

Table IV.F-1 shows that exceedances of the State annual average PM₁₀ standard (20 µg/m³) have not occurred in San Francisco between 2009 and 2013. It is estimated that the State 24-hour PM₁₀ standard has not been exceeded except for 6 days in 2012.⁷ The BAAQMD began monitoring PM_{2.5} concentrations in San Francisco in 2002. **Table IV.F-1** shows that the State standard and the new 2013 federal standard for annual average PM_{2.5} (12 µg/m³) was not exceeded in San Francisco for the years 2009 through 2013. However, on the 24-hour averaging basis, the concentration of PM_{2.5} has exceeded the federal 24-hour PM_{2.5} standard (35 µg/m³), and in San Francisco this level was exceeded once in 2009 and 2012, twice in 2011 and 2013, and three times in 2010. PM_{2.5} is of particular concern because epidemiologic studies have demonstrated that people who live near freeways and high-traffic roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children.⁸

Based on regionally persistent exceedances of the federal 24-hour PM_{2.5} standard, in 2009, the USEPA designated the SFBAAB as nonattainment for the PM_{2.5} federal standard.

Fugitive Dust. Fugitive dust is a PM suspended in the air by wind action and human activities. Fugitive dust does not come out of a vent or a stack, instead fugitive dust particles are mainly composed of soil minerals suspended in the air by wind action and human activities (e.g., demolition, excavation, grading, and other construction activities). Fugitive dust exposure contributes to the same health effects as described for PM above.

⁷ PM₁₀ is sampled every sixth day; therefore, for each day sampled at a level over the standard, up to six actual days over the standard may have occurred.

⁸ San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review, DRAFT*, November 2007. Available online at www.sfdph.org/dph/EH/Air/MitRoadway111907.pdf (accessed May 14, 2014).

Nitrogen Dioxide. Nitrogen dioxide is a reddish brown gas that is a byproduct of combustion processes. Mobile sources (motor vehicles and other transportation sources) and industrial operations are the main sources of nitrogen oxides, which include NO₂. Aside from its contribution to ozone formation, NO₂ can increase the risk of acute and chronic respiratory disease and reduce visibility. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. **Table IV.F-1** shows that the current federal and State standards for NO₂ have been met in San Francisco except for one day in 2012 when the federal standard was exceeded. Currently, the USEPA has designated the SFBAAB as an unclassifiable/attainment area for the federal 1-hour NO₂ standard, which is based on a 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each monitoring site.

The USEPA has also established requirements for a new monitoring network to measure NO₂ concentrations near major roadways in urban areas with a population of 500,000 or more. Sixteen new near-roadway monitoring sites will be required in California, three of which will be in the Bay Area, although none will be located within in San Francisco. These monitors will be deployed in phases between 2014 and 2017. The new monitoring data may result in a need to change area designations in the future. The ARB will revise the area designation recommendations, as appropriate, once the new monitoring data becomes available.⁹

Sulfur Dioxide. Sulfur Dioxide is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. Sulfur dioxide has the potential to damage materials and can cause health effects in high concentrations. It can irritate the lung tissue and increase the risk of acute and chronic respiratory disease. Although not indicated in **Table IV.F-1**, the SFBAAB was in attainment of the State's 24-hour standard for SO₂ in 1989.¹⁰ Although monitoring of SO₂ continues within the Bay Area, monitoring at San Francisco (Potrero Hill) was

⁹ California Air Resources Board, *Annual Monitoring Network Report for Twenty-three Districts in California*, July 2013. Available online at www.arb.ca.gov/aqd/amnr/amnr2013.pdf (accessed July 21, 2014).

¹⁰ California Air Resources Board, *Chronology of State Sulfur Dioxide Designations*, April 2014. Available online at www.arb.ca.gov/desig/changes/so2.pdf (accessed July 21, 2014).

discontinued on December 31, 2008.¹¹ In 2010, the USEPA implemented a new 1-hour SO₂ standard. Pollutant trends suggest that the new standard will continue to be met for the foreseeable future. The USEPA anticipates initially designating areas based on 2008–2010 monitoring data or refined dispersion modeling results if provided by the State by June 2012. Similar to the federal standard for NO₂, the USEPA has established requirements for a new source-oriented monitoring network to measure SO₂ concentrations to be deployed by 2017; however, the precise locations of these monitoring locations are unknown at this time. The new monitoring data may result in a need to change area designations in the future.

Lead. Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and the manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has multiple adverse neurotoxic health effects, and children are at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the USEPA strengthened the national ambient air quality standard for lead by lowering it from 1.5 to 0.15 µg/m³. The USEPA revised the monitoring requirements for lead in December 2010. These requirements focus on airports and large urban areas, resulting in an increase in 76 monitors nationally.

Toxic Air Contaminants. Toxic air contaminants (TACs) are defined in California Health and Safety Code Section 39655 as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly

¹¹ Bay Area Air Quality Management District, *Bay Area Air Pollution Summary—2008*. Available online at www.baaqmd.gov/~media/Files/Communications%20and%20Outreach/Annual%20Bay%20Area%20Air%20Quality%20Summaries/pollsum08.ashx (accessed July 21, 2014).

in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.¹²

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

In addition to monitoring criteria air pollutants, both the BAAQMD and the ARB operate TAC monitoring networks in the San Francisco Bay Area. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in the ambient air and therefore tend to be the primary contributors to community health risk.

¹² In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term health effects, calculating the increased risk of cancer as a result of exposure to one or more TACs for the source in question.

The BAAQMD collects ambient TAC emissions data at its 16th and Arkansas Street monitoring station in San Francisco, which is the only monitoring site for air toxics in San Francisco. **Table IV.F-2** shows ambient concentrations of carcinogenic TACs measured at the Arkansas Street monitoring station and the estimated cancer risks from lifetime (70 years) exposure to these substances.

Table IV.F-2: Carcinogenic Toxic Air Contaminants— Annual Average Ambient Concentrations

Substance	Mean Concentration	Cancer Risk per Million ^a
Gaseous TACs^b		
Acetaldehyde	0.50	2
Benzene	0.204	19
1,3-Butadiene	0.034	13
Para-Dichlorobenzene	0.15	10
Carbon Tetrachloride	0.082	22
Ethylene Dibromide	0.006	3
Formaldehyde	1.01	7
Perchloroethylene	0.010	0.4
Methylene Chloride	0.087	0.3
Methyl tertiary-Butyl Ether (MTBE)	0.26	0.3
Chloroform	0.018	0.5
Trichloroethylene	0.01	0.1
Particulate TACs^c		
Chromium (Hexavalent)	0.65	10

Note: All values are from BAAQMD 2012 monitoring data from the 16th and Arkansas Street monitoring station, except for Para-Dichlorobenzene (2006), Ethylene Dibromide (1992), and MTBE (2003).

^a Cancer risks were estimated by applying published unit risk values to the measured concentration.

^b ppb = parts per billion

^c ng/m³ = nanograms per cubic meter

Source: California Air Resources Board, Ambient Air Toxics Summary, 2012. Available online at www.arb.ca.gov/adam/toxics/sitesubstance.html (accessed May 14, 2014)

When TAC measurements at the Arkansas Street monitoring station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at the Arkansas Street monitoring station does not appear to be any greater than for the Bay Area as a region.

Roadway-Related Pollutants. Motor vehicles contribute significantly to air pollution through tailpipe emissions, road dust, and brake and tire wear. Vehicle tailpipe emissions contain numerous TACs, including benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, naphthalene, and diesel exhaust. Engine exhaust from diesel, gasoline, and other combustion engines is a complex mixture of particles and gasses with collective and individual toxicological characteristics. While each constituent pollutant in engine exhaust may have a unique toxicological profile, health effects have been associated with proximity, or exposure, to vehicle-related pollutants collectively as a mixture. Exposures to PM_{2.5} are strongly associated with mortality, respiratory diseases, lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease. As discussed previously, people living in proximity to freeways or busy roadways have poorer health outcomes. Air pollution monitoring done in conjunction with epidemiological studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and NO₂. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet. As a result, the ARB recommends that new sensitive land uses not be located within 500 feet of a freeway or urban road carrying 100,000 vehicles per day.

In addition to PM_{2.5}, diesel particulate matter (DPM) is also of concern. The ARB identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.¹³ The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways. The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. The ARB estimated the average Bay Area cancer risk from DPM, based on a population-weighted average ambient diesel particulate concentration, at about 480 in 1 million as of 2000. The risk from diesel particulate matter declined from 750 in 1

¹³ California Air Resources Board, *Fact Sheet, "The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines,"* October 1998. Available online at www.arb.ca.gov/toxics/dieseltac/factsht1.pdf (accessed May 15, 2014).

million in 1990 to 570 in 1 million in 1995; by 2000, ARB estimated the average Statewide cancer risk from DPM at 540 in 1 million.^{14,15}

San Francisco Modeling. In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the BAAQMD to inventory and assess air pollution and exposures from vehicles, stationary, and area sources within San Francisco. The Citywide dispersion modeling (Citywide modeling) was conducted using AERMOD¹⁶ to assess the emissions from the following primary sources: roadways, permitted stationary sources, port and maritime sources, and Caltrain. Emissions of PM₁₀ (DPM is assumed equivalent to PM₁₀), PM_{2.5}, and total organic gases (TOG) were modeled on a 20 meter by 20 meter receptor grid covering the entire City. Therefore, the results represent a comprehensive assessment of existing cumulative exposures to air pollution throughout the City. The methodology and technical documentation for modeling citywide air pollution is available in the document entitled, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*.¹⁷ Areas with poor air quality, termed the *Air Pollutant Exposure Zone*, were then identified based on two health-protective criteria: (1) excess cancer risk from the contribution of emissions from all modeled sources greater than 100 per one million population, and/or (2) cumulative PM_{2.5} concentrations greater than 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

¹⁴ California Air Resources Board, *California Almanac of Emissions and Air Quality—2009 Edition*, Table 5-44 Available online at www.arb.ca.gov/aqd/almanac/almanac09/pdf/chap509.pdf (accessed May 15, 2014).

¹⁵ This calculated cancer risk value from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States from all causes, which is more than 40 percent (based on sampling of 17 regions nationwide), or greater than 400,000 in 1 million according to the National Cancer Institute.

¹⁶ AERMOD is the USEPA's preferred/recommended steady state air dispersion plume model. For more information on AERMOD and to download the AERMOD Implementation Guide see www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod (accessed May 20, 2014).

¹⁷ Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*, December 2012. Available online at ftp.baaqmd.gov/pub/CARE/SFCRRP/SF_CRRP_Methods_and_Findings_v9.pdf

Excess Cancer Risk. The above 100 per one million persons (100 excess cancer risk) criteria is based on USEPA guidance for conducting air toxic analyses and making risk management decisions at the facility- and community-scale level.¹⁸ As described by the BAAQMD, the USEPA considers a cancer risk of 100 per million to be within the acceptable range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking,¹⁹ the USEPA states that it "...strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand (100 in one million) the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling.²⁰

Fine Particulate Matter. The Air Pollutant Exposure Zone for San Francisco is based on the health protective PM_{2.5} standard of 11 µg/m³, as supported by the USEPA's Particulate Matter Policy Assessment, although lowered to 10 µg/m³ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

5M Project Vicinity. The primary sources of air pollutants in the project vicinity are vehicle emissions on major roadways and permitted stationary sources. Emissions from these sources exceed the health protective standards identified above, resulting in the majority of the project site, with the exception of the Dempster Printing Building and 441-445 Minna Street, and nearby sites being within the Air Pollutant Exposure Zone. Land uses surrounding the project site include hotel, retail, office, residential, convention, parking, and public facilities uses that typify Downtown San Francisco and

¹⁸ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, page 67, October 2009.

¹⁹ 54 Federal Register 38044, September 14, 1989.

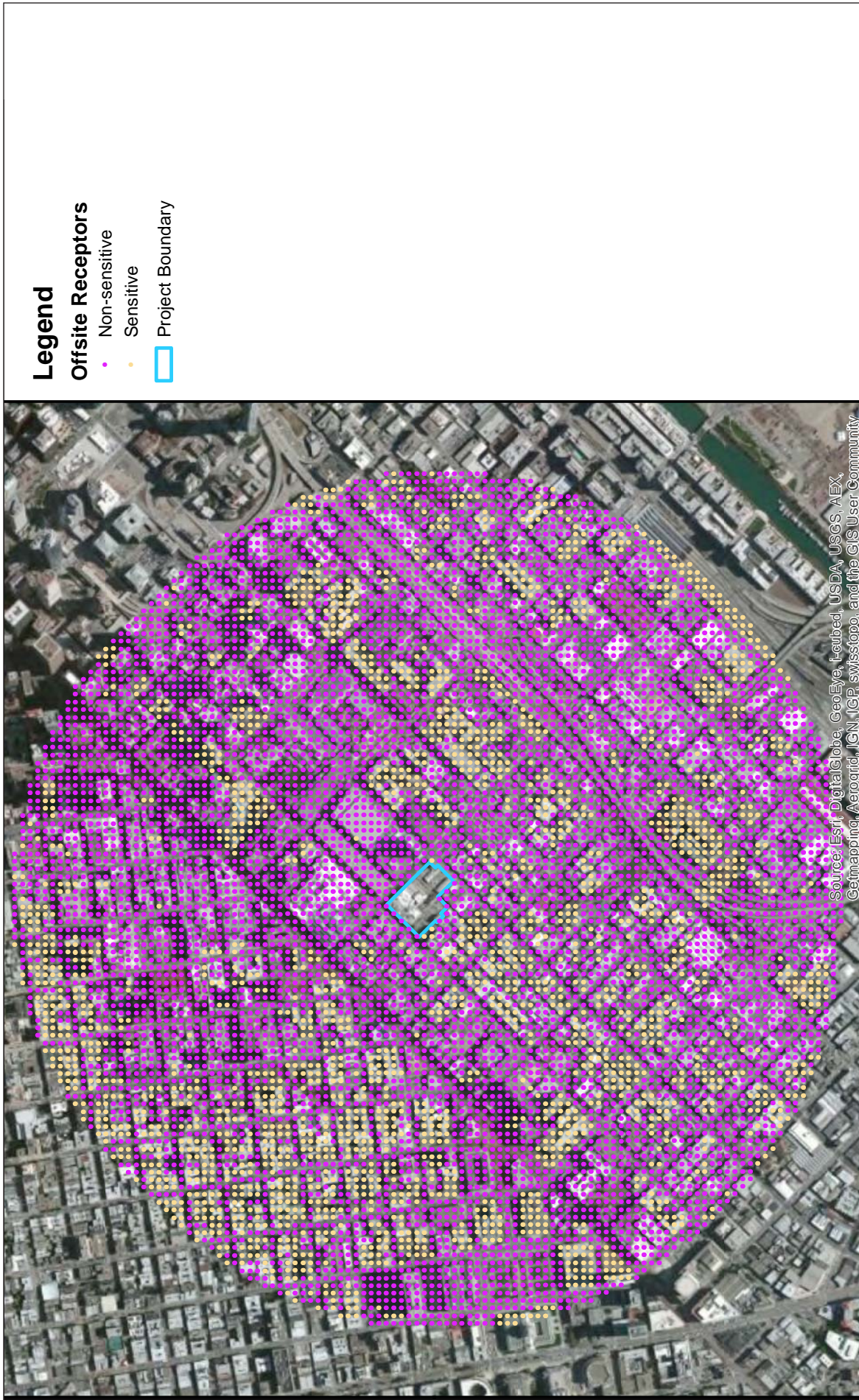
²⁰ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, page 67, October 2009.

its immediate surroundings. The closest off-site sensitive receptors are those land uses located immediately adjacent to the proposed project boundaries. These receptors include the mixed-use building at 198 Fifth Street, the residential building at 453 Minna Street (currently vacant), and the mixed-use building at 951-953 Mission Street. **Figure IV.F-1** illustrates sensitive receptors within one kilometer of the proposed project, based on a map search and site visits.²¹ At these off-site sensitive receptor locations, based on Citywide modeling, PM_{2.5} concentrations range between 8.4 and 11.3 µg/m³ and excess cancer risk ranges between 33.0 and 169 cases per million. In general, the highest PM_{2.5} concentrations and excess cancer risk are located to the south near Interstate 80 and along the north–south streets south of Market Street in the study area. In general, the lowest PM_{2.5} concentrations and excess cancer risk are located further north from Interstate 80 and mid-block areas between the north–south streets in the study area.

Regulatory Framework

Federal Ambient Air Quality Standards. The 1970 Clean Air Act (as amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants would be controlled in order to achieve all ambient air quality standards by the specified deadlines. The ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. The standards are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed.

²¹ ENVIRON International Corporation, *Air Quality Technical Report: 5M Project (AQTR)*, March 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.



Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

L S A

FIGURE IV.F-1

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The current attainment²² status for the SFBAAB, with respect to State and federal standards, is summarized in **Table IV.F-3**. The SFBAAB is designated as *nonattainment* for the ozone and PM_{2.5} federal standards, *unclassified* for federal PM₁₀ and NO₂ standards, and *attainment* for federal standards of other criteria pollutants. In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8-hour ozone standard. The USEPA lowered the national 8-hour ozone standard from 0.80 to 0.75 parts per million (ppm) effective May 27, 2008. On February 7, 2012, the USEPA proposed a rule that takes necessary steps to implement the 2008 national 8-hour ozone standard, establishing an approach for classification of nonattainment areas—those areas not meeting the 2008 ozone standard.²³

Table IV.F-3: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	(State) CAAQS ^a		(Federal) NAAQS ^b	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1-hour	0.09 ppm	N	–	^c
	8-hour	0.07	N ^d	0.075	N
Carbon Monoxide (CO)	1-hour	20 ppm	A	35 ppm	A
	8-hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.03 ppm	–	0.053 ppm	A
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	A	0.075 ppm	A
	24-hour	0.04 ppm	A	0.14 ppm	A
	Annual	–	–	0.03 ppm	A
Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	N	150 µg/m ³	U
	Annual ^e	20 µg/m ³	N	–	–
Fine Particulate Matter (PM _{2.5})	24-hour	–	–	35 µg/m ³	N
	Annual	12 µg/m ³	N	12 µg/m ³	^f
Sulfates	24-hour	25 µg/m ³	A	–	–
Lead	30-day	1.5 µg/m ³	–	–	–
	Quarterly	–	–	1.5 µg/m ³	A
Hydrogen sulfide	1 hour	0.03 ppm	U	–	–
Visibility-Reducing Particles	8 hour	^g	U	–	–

Table notes included on next page.

²² Attainment status refers to those regions that are meeting federal and/or State standards for a specified criteria air pollutant. Nonattainment refers to regions that do not meet federal and/or State standards for a specified criteria air pollutant. Unclassified refers to regions where there is not enough data to determine the region's attainment status.

²³ U.S. Environmental Protection Agency, *Fact Sheet, Proposed Rule—Implementation of the 2008 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications Approach and Attainment Deadlines*. Available online at www.epa.gov/air/ozonepollution/pdfs/20120203factsheet.pdf (accessed May 15, 2014).

- ^a California ambient air quality standards—CAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide, nitrogen dioxide, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other State standards shown are values not to be equaled or exceeded.
- ^b National ambient air quality standards—NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.075 ppm or less. The 24-hour PM₁₀ standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour PM_{2.5} standard is attained when the three-year average of the 98th percentile is less than the standard.
- ^c The USEPA revoked the national 1-hour ozone standard on June 15, 2005.
- ^d This State 8-hour ozone standard was approved in April 2005 and became effective in May 2006.
- ^e State standard is the annual geometric mean; the national standard is the annual arithmetic mean.
- ^f In March 2013, the USEPA implemented a new annual PM_{2.5} standard of 12.0 µg/m³. Although SFBAAB is likely to meet the new 2013 federal standard, the USEPA will not decide on attainment status until 2014, at the earliest.
- ^g Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

A = attainment

N = nonattainment

U = unclassified

– = not applicable or no applicable standard

ppm = parts per million

µg/m³ = micrograms per cubic meter

Source: Bay Area Air Quality Management District, *Air Quality Standards and Attainment Status*, May 2013. Available online at hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm (accessed May 15, 2014).

Air Quality Index. The US EPA developed the Air Quality Index (AQI) scale, to make the public health impacts of air pollution concentrations easily understandable. The AQI, much like an air quality “thermometer”, translates daily air pollution concentrations into a number on a scale between 0 and 500. The numbers in the scale are divided into six color-coded ranges, with numbers 0-300 as outlined below.

- Green (0-50) indicates “good” air quality. No health impacts are expected when air quality is in the green range.
- Yellow (51-100) indicates air quality is “moderate”. Unusually sensitive people should consider limited prolonged outdoor exertion.
- Orange (101-150) indicates air quality is “unhealthy for sensitive groups”. Active children and adults, and people with respiratory disease, such as asthma, should limit outdoor exertion.

- Red (151-200) indicates air quality is “unhealthy”. Active children and adults, and people with respiratory disease, such as asthma should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
- Purple (201-300) indicates air quality is “very unhealthy”. Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit outdoor exertion.

The AQI numbers refer to specific amounts of pollution in the air. It’s based on the federal air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM₁₀ and PM_{2.5}. In most cases, the federal standard for these air pollutants corresponds to the number 100 on the AQI chart. If the concentration of any of these pollutants rises above its respective standard, it can be unhealthy for the public. In determining the air quality forecast, local air districts, including the BAAQMD, use the anticipated concentration measurements for each of the major pollutants, convert them into AQI numbers, and determine the highest AQI for each zone in a district.

Readings below 100 on the AQI scale would not typically affect the health of the general public (although readings in the moderate range of 50 to 100 may affect unusually sensitive people). Levels above 300 rarely occur in the United States, and readings above 200 have not occurred in the Bay Area in decades.²⁴ Historical BAAQMD data indicates that the SFBAAB experienced air quality in the Red level (unhealthy) on two days between the years 2009 to 2013. As shown in **Table IV.F-4**, the SFBAAB had a total of 19 orange-level (unhealthy for sensitive groups) days in 2009, 14 days in 2010, 12 days in 2011, 8 days in 2012, and 15 days in 2013.

²⁴ Bay Area Air Quality Management District, 2014. Website: sparetheair.org/Stay-Informed/Todays-Air-Quality/Air-Quality-Index.aspx.

Table IV.F-4: Air Quality Index Statistics for the San Francisco Bay Area Air Basin

AQI Statistics for City of San Francisco	Number of Days by Year				
	2009	2010	2011	2012	2013
Unhealthy for Sensitive Groups (Orange)	19	14	12	8	15
Unhealthy (Red)	0	1	0	0	1

Source: Bay Area Air Quality Management District, 2014.

State Ambient Air Quality Standards. Although the Federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other regulated pollution sources. California had already established its own air quality standards when the federal standards were established. Because of differing implementing authorities in California, there is considerable diversity between State and national ambient air quality standards, as shown in **Table IV.F-3**. California ambient air quality standards tend to be more stringent than federal standards.

In 1998, California passed the California Clean Air Act (California Health and Safety Code Sections 39000 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment based on State ambient air quality standards rather than federal standards. As indicated in **Table IV.F-3**, the SFBAAB is designated as *nonattainment* for State ozone, PM₁₀, and PM_{2.5} standards and attains the State standards for other pollutants.

Bay Area Air Quality Management District. The BAAQMD is the regional agency responsible for air quality regulation within the SFBAAB. The BAAQMD has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits; it can also impose emission limits, set fuel or material specifications, and establish operational limits to reduce air emissions. The BAAQMD regulates new or expanding stationary sources of TACs.

The BAAQMD is responsible for developing a Clean Air Plan, which guides the region's air quality planning efforts to attain the California Ambient Air Quality Standards. The BAAQMD's 2010 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures and strategies to

reduce ozone precursor emissions (i.e., ROG and NO_x), particulate matter, and greenhouse gas emissions. Control strategies include discreet measures that work in consort to reduce emissions to reach attainment of air quality standards.

The Bay Area 2010 Clean Air Plan, which was adopted on September 15, 2010 by the BAAQMD's board of directors accomplishes the following:

- Updates the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Establishes emission control measures that were to be adopted or implemented.

The City of San Francisco is within the jurisdiction of the BAAQMD. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

The BAAQMD regulates backup emergency generators, fire pumps and other sources of TACs through its New Source Review (Regulation 2, Rule 5) permitting process. Although emergency generators are intended to be used only during periods of power outages, monthly testing of each generator is required; however, the BAAQMD limits testing to no more than 50 hours per year. As part of the permitting process, the BAAQMD limits the excess cancer risk from any facility to no more than 10 per one million population for any permits that are applied for within a two-year period and would require any source that would result in an excess cancer risk greater than one per one million to install Best Available Control Technology for Toxics (TBACT).

The City and County of San Francisco. San Francisco has a number of policies and regulations related to air quality, including those within the City's General Plan Air Quality Element (a construction dust ordinance, the City's Health Code, and regulation of diesel generators) and the City's Building and Health Codes.

General Plan Air Quality Element. The *San Francisco General Plan (General Plan)* includes the Air Quality Element.²⁵ The objectives specified by the City include the following:

Objective 1: Adhere to State and Federal air quality standards and regional programs.

Objective 2: Reduce mobile sources of air pollution through implementation of the Transportation Element of the *General Plan*.

Objective 3: Decrease the air quality impacts of development by coordination of land use and transportation decisions.

Objective 4: Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources.

Objective 5: Minimize particulate matter emissions from road and construction sites.

Objective 6: Link the positive effects of energy conservation and waste management to emission reductions.

San Francisco Construction Dust Control Ordinance. The San Francisco Health Code Article 22B and San Francisco Building Code Section 106A.3.2.6 collectively constitute the Construction Dust Control Ordinance (adopted in July 2008). The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specific dust control

²⁵ City and County of San Francisco, Planning Department, *Air Quality*, An element of the *General Plan* of the City and County of San Francisco, July 1997, updated in 2000. This document is available for review at www.sf-planning.org/ftp/general_plan/index.htm.

measures whether or not the activity requires a permit from the Department of Building Inspection (DBI). For projects over ½ acre, the Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Department of Public Health (DPH) prior to issuance of a building permit by the DBI.

Building permits will not be issued without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. The Construction Dust Control Ordinance requires project sponsors and contractors responsible for construction activities to control construction dust on the site or implement other practices that result in equivalent dust control that are acceptable to the Director of Public Health. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code.

San Francisco Provisions Regarding Roadway-Generated Pollutants. San Francisco adopted Article 38 of the San Francisco Health Code in 2008, requiring an Air Quality Assessment for new residential projects of 10 or more units located in proximity to high-traffic roadways, as mapped by the DPH, to determine whether residents would be exposed to unhealthful levels of PM_{2.5}. The air quality assessment evaluates the concentration of PM_{2.5} from local roadway traffic that may impact a proposed residential development site. If the DPH air quality assessment indicates that the annual average concentration of PM_{2.5} at the site would be greater than 0.2 µg/m³, Health Code Section 3807 requires development on the site to be designed or relocated to avoid exposure greater than 0.2 µg/m³, or a ventilation system to be installed that would be capable of removing 80 percent of ambient PM_{2.5} from habitable areas of the residential units.

San Francisco Regulation of Diesel Backup Generators. San Francisco Health Code, Article 30, requires all diesel backup generators used by facilities within the City and County of San Francisco to be registered through the Department of Public Health. The regulation also requires all new backup diesel generators to have air emission control technologies as determined by the BAAQMD, be

limited in their non-emergency use, and have records kept of all operations. The regulation also provides for enforcement for violations of the regulation requirements.

Impacts and Mitigation Measures

An air quality technical report (AQTR) was prepared for the proposed project, and the following analysis relies largely on the information provided in the AQTR and subsequent updates.^{26,27}

Significance Criteria. Implementation of the proposed project would have a significant effect on air quality if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.
- Result in a cumulative air quality impact in combination with past, present and reasonably foreseeable future projects in the vicinity.

²⁶ ENVIRON International Corporation, *Air Quality Technical Report: 5M Project (AQTR)*, March 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²⁷ Wade Wietgreffe, San Francisco Planning Department, *925 Mission Street (5M) Updated Air Quality Analysis for the Proposed Project and Project Alternatives*, May 27, 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Approach to Analysis. In general, the proposed project could result in two types of air quality impacts. First, the project could result in air pollution through increased generation of air pollutants, due to increased vehicle travel, new stationary sources (i.e., four new diesel emergency generators, four emergency fire pumps, and one additional relocated diesel emergency generator), and construction activity. Second, the project site could increase the sensitive receptors in proximity to existing or new sources of air pollution, increasing air pollution exposure and hazard. This section describes the methodology used to evaluate project impacts related to consistency with the clean air plan, criteria pollutants, and local health risks and hazards.

Air Quality Plan. The applicable air quality plan is the BAAQMD's 2010 Clean Air Plan, which identifies measures to reduce emissions and reduce ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas emissions to protect the climate. Consistency with the Clean Air Plan can be determined if the project supports the goals of the Clean Air Plan, includes applicable control measures from the Clean Air Plan, and if the project would not disrupt or hinder implementation of any control measures from the Clean Air Plan. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan.

Criteria Air Pollutants. As described above under Regulatory Framework, the SFBAAB experiences low concentrations of most pollutants when compared to federal or State standards and is designated as either in attainment or unclassified for most criteria pollutants with the exception of ozone, PM_{2.5}, and PM₁₀, for which these pollutants are designated as non-attainment for either the State or Federal standards. By its very nature regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's

contribution to cumulative air quality impacts is considerable, then the project’s impact on air quality would be considered significant.²⁸

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. **Table IV.F-5** identifies criteria air pollutant significance thresholds followed by a discussion of each threshold. Projects that would result in criteria pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

Table IV.F-5: Criteria Air Pollutant Significance Thresholds

Pollutant	Construction Thresholds Average Daily Emissions (pounds per day)	Operational Thresholds	
		Average Daily Emissions (pounds per day)	Annual Average Emissions (tons per year)
ROG ^a	54	54	10
NOx	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not applicable	

^a Reactive organic gas

Source: Bay Area Air Quality Management District, 2011.

The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants that may contribute to an existing or projected air quality violation is based on the State and federal Clean Air Acts emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds (lbs.) per day).²⁹ These levels represent emissions by

²⁸ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2011.

²⁹ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, page 17, October 2009.

which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants which could result in an increased health effects.

The federal New Source Review (NSR) program was created by the Federal Clean Air Act to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health based ambient air quality standards. For PM₁₀ and PM_{2.5}, the emissions limit under NSR is 15 tons per year (82 lbs. per day) and 10 tons per year (54 lbs. per day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality.³⁰

Although the regulations specified above apply to new or modified stationary sources, land use development projects result in ROG, NO_x, PM₁₀, and PM_{2.5} emissions as a result of increases in vehicle trips, energy use, architectural coating, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects. Those projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or particulate matter. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly control fugitive dust.³¹ Individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.³² The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.³³ San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to ensure that construction projects do not result in visible

³⁰ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, page 16, October 2009.

³¹ Western Regional Air Partnership, *WRAP Fugitive Dust Handbook*, September 7, 2006. Available online at wrapair.org/forums/dejfdh/content/FDHandbook_Rev_06.pdf (accessed February 16, 2012).

³² Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 27.

³³ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2011.

dust. Compliance with the Construction Dust Control Ordinance is the basis for determining the significance of fugitive dust emissions.

Local Health Risks and Hazards. In addition to criteria air pollutants, individual projects may emit TACs. As part of the AQTR, a health risk assessment was conducted for the proposed project to provide quantitative estimates of health risks from exposures to TACs.

The threshold of significance used to evaluate health risks from new sources of TACs is based on the potential for the proposed project to substantially affect the geography and severity of the Air Pollutant Exposure Zone at sensitive receptor locations. For projects that could result in sensitive receptor locations meeting the Air Pollutant Exposure Zone criteria that otherwise would not without the project, a proposed project that would emit PM_{2.5} concentration above 0.3 µg/m³ or result in an excess cancer risk greater than 10.0 per million would be considered a significant impact. The 0.3 µg/m³ PM_{2.5} concentration and the excess cancer risk of 10.0 per million persons exposed are the levels below which the BAAQMD considers new sources not to make a considerable contribution to cumulative health risks.³⁴ For those locations already meeting the Air Pollutant Exposure Zone criteria, a lower significance standard is required to ensure that a proposed project's contribution to existing health risks would not be significant. In these areas a proposed project's PM_{2.5} concentrations above 0.2 µg/m³ or an excess cancer risk greater than 7.0 per million would be considered a significant impact.³⁵ For projects proposing new sensitive uses, the threshold of significance used to evaluate exposure and hazard is based on whether the project would locate these uses within an Air Pollutant Exposure Zone.

³⁴ Bay Area Air Quality Management District, *California Environmental Quality Act Guidelines Update, Proposed Air Quality CEQA Thresholds of Significance*, May 3, 2010. Available online at www.baaqmd.gov/~/_media/Files/Planning%20and%20Research/CEQA/Proposed_Thresholds_Report_%20May_3_2010_Final.ashx?la=en (accessed February 20, 2014).

³⁵ A 0.2 µg/m³ increase in PM_{2.5} would result in a 0.28 percent increase in non-injury mortality or an increase of about twenty-one excess deaths per 1,000,000 population per year from non-injury causes in San Francisco. This information is based on Jerrett M et al. 2005. *Spatial Analysis of Air Pollution and Mortality in Los Angeles*. *Epidemiology*. 16:727-736. The excess cancer risk has been proportionally reduced to result in a significance criteria of 7 per million persons exposed.

Odors. Odors are also an important element of local air quality conditions. Specific activities can raise concerns related to odors on the part of nearby neighbors. Major sources of odors include restaurants and manufacturing plants. Other odor producers include the industrial facilities within the region. While sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally-produced odors often exceeds regulatory thresholds.

Cumulative Air Quality Impacts. Regional air quality impacts are by their very nature cumulative impacts. Emissions from past, present and future projects contribute to adverse regional air quality impacts on a cumulative basis. No single project by itself would be sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.³⁶ As described above, the project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, if a project's emissions are below the project-level thresholds, the project would not be considered to result in a considerable contribution to cumulative regional air quality impacts.

The health risk assessment takes into account the localized health risks to sensitive receptors from sources included in the Citywide modeling plus the proposed project's sources. Thus, the Citywide modeling accounts for localized health risks. Therefore, if a project's emissions are below the project-level thresholds, the project would not be considered to result in a considerable contribution to cumulative localized air quality impacts.

Impact Evaluation

The proposed project would include the siting of new sensitive receptors, as well as the introduction of new stationary sources of emissions subject to permitting requirements: four new diesel emergency generators, four emergency fire pumps, and one additional relocated diesel emergency

³⁶ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

generator. Development of the proposed project would also introduce additional vehicular traffic in the project vicinity.

As described in Chapter II, Project Description, two project options are considered in the EIR: the Office Scheme and the Residential Scheme. Under both schemes, the proposed project would result in the construction of new office and active ground floor space (including office, retail, educational, and cultural uses), residential dwelling units, and open space. Associated infrastructure and accessory vehicle and bicycle parking would also be developed to support these uses. The two options are similar in massing and propose the same land use on all parcels except H-1. Both schemes would retain and renovate the Chronicle Building (901-933 Mission Street) and rehabilitate the Dempster Printing Building (447-449 Minna Street) and entail demolition of all other buildings on the site and the construction of four new buildings with heights ranging from 195 to 470 feet. The overall gross square footages are substantially the same between the two schemes, with a difference of only about 20,000 gsf; however, the allocation of office and residential uses between the two schemes would vary by approximately 273,000 and 255,000 gsf, respectively. For each source of emissions, the analysis evaluated which scheme (Office or Residential) would result in higher emissions. As detailed below, for most sources (traffic, construction) the Office Scheme would result in higher emissions due to greater building square footage, and more vehicle trips, as predicted by the traffic engineer, LCW Consulting. However for certain operational emissions, the Residential Scheme predicts higher emissions, as discussed below.

Impact AQ-1: Construction of the Office or Residential Scheme would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less Than Significant)

Construction activities (short-term) typically result in emissions of ozone precursors and particulate matter in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and particulate matter are primarily a result of the combustion of fuel from on- and off-road vehicles. However, ROG's are also emitted from activities that involve painting or other types

of architectural coatings or asphalt paving activities. Demolition and construction activities under the two project schemes would be similar. However, for construction, the Office Scheme would result in higher emissions due to greater building square footage. Activities associated with the approximately 96-month construction period for the proposed project, would range from earth moving and grading, building foundation and building erection, and finishing activities. These construction activities would have the potential to result in ozone precursors and particulate matter, as discussed below.

Fugitive Dust. Project demolition, excavation, grading, and other construction activities may result in wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of State and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the ARB, reducing particulate matter PM_{2.5} concentrations to State and federal standards of 12 µg/m³ in the San Francisco Bay Area would prevent between 200 and 1,300 premature deaths.³⁷

Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading, and other construction activities can cause wind-blown dust that adds particulate matter to the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred to as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust

³⁷ California Air Resources Board, *Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California*, Staff Report, Table 4c, October 24, 2008.

generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, minimize public nuisance complaints, and avoid orders to stop work by DBI.

The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from DBI. The Director of DBI may waive this requirement for activities on sites less than ½ acre that are unlikely to result in any visible wind-blown dust.

For project sites over ½ acre, such as the proposed project, the Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Department of Public Health. The DBI will not issue a building permit without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement.

The site-specific Dust Control Plan requires the project sponsor to submit a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third-party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in haul trucks to the size of the truck bed and secure with a tarpaulin; enforce a 15-mile-per-hour speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep off adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with these dust control requirements.

Compliance with the regulations and procedures set forth in the San Francisco Dust Control Ordinance would ensure that potential dust-related construction air quality impacts would be reduced to a less-than-significant level.

Criteria Air Pollutants. Emissions calculations of criteria air pollutants for the proposed project were quantified using the California Emissions Estimator Model (CalEEMod Version 2013.2.2). The model was developed, including default data (e.g., emission factors, meteorology) in collaboration with California air districts. Model values included default assumptions were used where project-specific information was unknown as described below.

The proposed project includes the demolition of six buildings (and a connecting structure), the construction of four buildings, and the renovation and rehabilitation of two buildings over two phases. A detailed quantification of construction-related criteria air pollutant emissions was conducted for the Office Scheme. Of the two proposed schemes, the Office Scheme would have the greater square footage and therefore would potentially generate higher emission levels. As detailed in the AQTR, on-road truck emissions were calculated using CalEEMod defaults, emission factors from ARB's Emission FACtor (EMFAC 2011) model, and an assumed 20-mile one-way trip length (based on CalEEMod default truck trip lengths). Hauling trips were estimated by CalEEMod based on the quantity of soil imported and exported and demolished material that would be hauled away. Vendor trips were estimated by CalEEMod based on the proposed building square footage by land use type. The emission factors for operating emissions for criteria pollutants were generated with the current version of the EMFAC model (EMFAC 2011). This version reflects the emissions benefits of ARB's recent rulemakings and updated information on California's car and truck fleets and travel activity. Emissions reported by the model were converted to units of grams of pollutant emitted per vehicle mile travel (VMT) or trip using the daily VMT or trips.

Table IV.F-6 summarizes the estimated average daily construction-related emissions of each criteria air pollutant and precursor for the year with the highest emissions, assuming 260 working days of construction. Construction during year 2019 was estimated as the year with the maximum annual

emissions because of the overlap of construction of Phases 1 and 2 in this year. Detailed calculations are included in the AQTR.³⁸

As shown in **Table IV.F-6**, construction emissions would not exceed the BAAQMD-established threshold for ROG, NO_x, PM_{2.5}, and PM₁₀ exhaust emissions. Therefore, construction emissions from these pollutants would not violate air quality standards or contribute significantly to an existing or projected air quality violation for the Office or Residential Schemes and impacts are considered less than significant.

Table IV.F-6: Project Criteria Pollutant Construction Emissions in Pounds Per Day

	ROG	NO _x	Exhaust PM _{2.5}	Exhaust PM ₁₀
Average Daily Construction Emissions ^a	27	21	0.7	0.7
BAAQMD Thresholds	54	54	54	82
Exceed Threshold? (Yes/No)	No	No	No	No

Notes:

^a Emission factors generated by CalEEMod Version 2013.2.2 (available online at www.caleemod.com)

Source: ENVIRON International Corporation, March 2014

Impact AQ-2: During Office Scheme or Residential Scheme operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Significant and Unavoidable)

Long-term criteria air pollutant emission would result from stationary sources (diesel emergency generators and fire pumps), area sources (natural gas combustion in stoves and heaters, consumer products, architectural coatings, and landscape equipment), energy use, and from mobile sources (daily auto and truck trips) associated with the proposed project. The calculation of stationary-source emissions were calculated according to the Tier 2 emissions standards plus Level 3 Verified Diesel Emissions Control Strategies for each engine (from 75 kilowatt to 700 kilowatt in size; information from Project contractor) using ARB and USEPA off-road engine standards with emissions beginning

³⁸ ENVIRON International Corporation, *Air Quality Technical Report: 5M Project (AQTR)*, March 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

in 2020 (year of assumed operation) and annual limits of maintenance and testing for non-emergency use to 50 hours.

Area-source and energy emissions were calculated using CalEEMod based on the type and size of land uses associated with the proposed project, including the number of estimated residents. Area sources include natural gas combustion in stoves, hearths, consumer products, area architectural coatings, and landscaping equipment. San Francisco County specific data was used to estimate daily VOC emissions from the ARB's Almanac data and building square footage data for San Francisco is available from the Office of the Assessor and the Planning Department.³⁹

Mobile-source emissions would result from vehicle trips (auto and truck) associated with the proposed project and were calculated using EMFAC2011⁴⁰ based on the number of vehicle trips identified in the transportation impact study prepared for the project.⁴¹

The detailed quantification of operational-related criteria air pollutant emissions was conducted for the proposed project based on the more conservative build-out scheme: both schemes would include the same stationary sources; the Office Scheme would have a higher vehicle trip generation and therefore would potentially generate higher mobile-source emission levels; and the Residential Scheme would have potentially higher area source emission levels based on estimates of square footage and land use type.

The daily and annual increase in emissions associated with operation of the proposed project is shown in **Table IV.F-7** for ROG, NO_x (two precursors of ozone), and particulate matter (PM₁₀ and

³⁹ Wietgreffe, Wade, 2014. 925 Mission Street (5M) Updated Air Quality for the Proposed Project and Project Alternatives. Written communication to Michael Jacinto, San Francisco Planning Department. May 27.

⁴⁰ California Air Resource Board, Emission FACtors Model, 2011. Website: www.arb.ca.gov/msei/modeling.htm#emfac2011_web_based_data.

⁴¹ LCW Consulting, *5M Project Transportation Impact Study*, June 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

PM_{2.5}). Project-related emissions shown in **Table IV.F-7** would not exceed BAAQMD thresholds of significance for NO_x, PM_{2.5} or PM₁₀. However, the proposed project would exceed the daily and annual BAAQMD’s average daily and annual significance criteria for ROG emissions by 7 pounds per day and 1.1 tons per year, respectively. Therefore, the proposed project would have a significant impact on regional emissions related to ROG, which is an ozone precursor.

Table IV.F-7: Estimated Daily and Annual Operation-Related Emissions

	ROG	NO _x	PM ₁₀	PM _{2.5}
Projected emissions (pounds per day)				
Projected Area-Source Emissions	44	0.57	0.29	0.29
Projected Mobile-Source (Vehicle) Emissions	16	40	8	3.6
Projected Generators/Fire Pumps (stationary) Emissions	0.03	4.9	0.03	0.03
Projected Energy Emissions	0.70	6.2	0.48	0.48
Total	61	52	8.5	4.3
Significance Threshold	54	54	82	54
Exceed Threshold? (Yes/No)	Yes	No	No	No
Annual Projected Emissions (tons per year)				
Projected Area-Source Emissions	8	0.10	0.05	0.05
Projected Mobile-Source (Vehicle) Emissions	3.0	7.4	1.4	0.6
Projected Generators/Fire Pumps (stationary) Emissions	0.005	0.89	0.005	0.005
Projected Energy Emissions	0.13	1.1	0.088	0.088
Total	11.1	9.5	1.5	0.8
Significance Threshold	10	10	15	10
Exceed Threshold? (Yes/No)	Yes	No	No	No

Note: Emission factors generated by CalEEMod Version 2013.2.2 for the highest emission generating scheme for each emission source: Either scheme for stationary emission, Residential Scheme for area and energy emissions, and the Office Scheme for vehicle emissions.

Source: ENVIRON International Corporation, April 2014; Wietgreffe, Wade, 2014, 925 Mission Street (5M) Updated Air Quality for the Proposed Project and Project Alternatives. Written communication to Michael Jacinto, San Francisco Planning Department. May 27.

The main health concern of exposure to ground-level ozone, which ROG is an ozone precursor, is effects on the respiratory system, especially on lung function. Several factors influence these health impacts, including the concentrations of ground-level ozone in the atmosphere, the duration of exposure, average volume of air breathed per minute, the length of intervals between short-term

exposures, and the sensitivity of the person to the exposure.^{42,43} The amount of concentrations of ground-level ozone in the atmosphere is influenced by the volume of air available for dilution, the temperature, and the intensity of ultraviolet light. In the Bay Area, the worst case conditions for ozone formation occur in the summer and early fall on warm, windless, sunny days.⁴⁴ Given these various factors, it is difficult to predict the magnitude of health effects from the project's exceedance of significance criteria for regional ROG emissions. The increase in emissions associated with the proposed project represents a fraction of total SFBAAB regional ROG emissions (61 pounds per day compared to 265 tons per day in the SFBAAB region in 2012)⁴⁵. Although Table IV.F-1 displays that the most stringent applicable ozone standards were not exceeded at the Potrero Hill monitoring station between 2009 and 2013, the SFBAAB region experienced an average of nine days of exceedance per year between 2009 and 2013.⁴⁶ The proposed project's ROG increase could contribute to air quality violation in the SFBAAB region by contributing to more days of ozone exceedance or result in AQI value levels that are unhealthy for sensitive groups and other populations. As shown in **Table IV.F-4**, the SFAAB has averaged between 8 and 19 days per year that are considered unhealthy for sensitive groups and has had 2 unhealthy (red) days in the last 5 years. On unhealthy days, persons are recommended to avoid both prolonged and heavy exertion outdoor activities.⁴⁷

⁴² The World Bank Group, *Pollution Prevention and Abatement Handbook 1998: Toward Cleaner Production*, pp. 227–230, 1999. Available online at www.ifc.org/wps/wcm/connect/dd7c9800488553e0b0b4f26a6515bb18/HandbookGroundLevelOzone.pdf?MOD=AJPERES (accessed July 10, 2014).

⁴³ U.S. Environmental Protection Agency, *Air Quality Guide for Ozone*, March 2008. www.airnow.gov/index.cfm?action=pubs.aqiguideozone (accessed July 10, 2014).

⁴⁴ Bay Area Air Quality Management District, *Air Pollutants*, January 30, 2013. Available online at www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Pollutants.aspx (accessed July 10, 2014).

⁴⁵ California Air Resources Board, *The California Almanac of Emissions and Air Quality – 2013 Edition*, May 21, 2014. Available online at www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm (accessed October 3, 2014).

⁴⁶ Bay Area Air Quality Management District, *Annual Bay Area Air Quality Summaries*, 2014. Available online at www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx (accessed October 3, 2014).

⁴⁷ U.S. Environmental Protection Agency, *Air Quality Index, A Guide to Air Quality and Your Health*, February 2014. Available online at www.epa.gov/airnow/aqi_brochure_02_14.pdf (accessed September 8, 2014).

As shown in **Table IV.F-7**, the primary source of ROG emissions (72 percent) is estimated from project area source emissions. Area source emissions associated with the project would be generated by architectural coatings, consumer products, hearth use, and landscaping. Of the area source emissions, the majority of the ROG emissions (approximately 79 percent) are estimated from consumer products, which are various solvents used in non-industrial applications that emit volatile organic compounds during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries. Mobile source emissions are estimated to generate the second highest amount of ROG emissions (approximately 27 percent). Therefore, measures to mitigate the effects from consumer products and mobile source emissions are required.

Mitigation Measure M-AQ-2: Reactive Organic Gases (ROG) Emission Reduction Measures. To reduce ROG emissions associated with the project, the project sponsor shall implement the following:

- **Provide Education for Residential and Commercial Tenants.** Prior to receipt of any building permit and every five years thereafter, the project sponsor shall work with the San Francisco Department of Environment to develop electronic correspondence to be distributed by email annually to tenants of the project which encourages the purchase of consumer products that are better for the environment and generate less VOC emissions. The correspondence shall encourage environmentally preferable purchasing and shall include contact information and links to SF Approved.⁴⁸
- **Transportation Demand Management (TDM) Plan.** The project applicant and subsequent property owners shall prepare and implement a TDM Plan with a goal of reducing estimated one-way vehicle trips by 20 (twenty) percent compared to the projections within the project's Transportation Impact Study. Prior to final certificate of occupancy for any new building associated with the project, the project applicant shall submit a TDM Plan to the Planning Department staff.

⁴⁸ SF approved (sfapproved.org) is administrated by the San Francisco Department of Environment staff, who identifies products and services that are safer and better for the environment (e.g., those that are listed as "Required" or "Suggested").

The project applicant is responsible for identifying the components of the TDM Plan that could reasonably be expected to achieve the reduction goal for each new building associated with the project, and for making good faith efforts to implement them. Components of the TDM Plan beyond Planning Code requirements could include, but are not limited to, education and marketing of transportation options; on-site safety strategies; subsidies for transportation options other than the single occupancy vehicle; providing additional car-share or bicycle parking; reducing the amount or restricting access to vehicular parking; unbundling vehicular parking from commercial tenants occupancy; and increasing the cost of vehicular parking.

The TDM Plan shall include monitoring of person and vehicle trips traveling to and from the project site to determine the TDM Plan's effectiveness, as outlined below. The TDM Plan shall be adjusted based on the monitoring results if three consecutive monitoring results show that existing measures are not creating a trend toward meeting the reduction goal.

TDM Plan Monitoring: The project sponsor shall collect data and make monitoring reports available for review and approval by the Planning Department staff.

- Timing: Monitoring data and reports shall be required to be submitted to Planning Department staff every two years for a period of eight years and every four years thereafter (referred to as reporting periods), until two consecutive reporting periods display the project has met the reduction goal. The first monitoring report is required one year after initial occupancy of buildings following completion of both phases of construction or one year after initial occupancy of buildings that bring the project's total gross square footage to greater than 1,100,000, whichever occurs first. The timing may be modified by the Planning Department as needed to consolidate this requirement with other annual monitoring and/or reporting requirements for the project. Each trip count and survey (see below for definitions) shall be completed within 90 days following the end of the applicable reporting period. Each monitoring report shall be completed within 180 days following the applicable reporting period.

- Components: The monitoring report, including trip counts and surveys, shall include the following components OR comparable alternative methodology and components as approved or provided by Planning Department staff:
 - Trip Count and Intercept Survey: Trip count and intercept survey of persons and vehicles arriving and leaving the building for no less than two days of the reporting period between 6:00 a.m. and 8:00 p.m. One day shall be a Tuesday, Wednesday, or Thursday, and another day shall be a Saturday.^{49,50}
 - Property Manager/Coordinator Survey: The project sponsor shall request in writing from Planning Department Staff a survey (online or paper) that shall be completed by property manager/coordinator to document which TDM Plan were implemented during the reporting period and obtain basic building information (e.g., percent unit occupancy, off-site parking utilization by occupants of the building, loading frequency, etc.). This survey shall be included in the monitoring report submitted to Planning Department staff.
 - Travel Demand Information: The above trip count and survey information shall be able to provide travel demand analysis characteristics as outlined in the *SF Guidelines* in effect at the time of the survey.⁵¹

⁴⁹ The trip count and intercept survey shall be prepared by a qualified transportation or qualified survey consultant and the methodology shall be approved by the Planning Department prior to conducting the components of the trip count and intercept survey. It is anticipated that the Planning Department will have a standard trip count and intercept survey methodology developed and available to project sponsors at the time of data collection.

⁵⁰ An example of an appropriate trip count and intercept survey can be found in the University of California, Davis, *California Smart-Growth Trip Generation Rates Study*, March 2013, available online at: <http://ultrans.its.ucdavis.edu/projects/smarth-growth-trip-generation>.

⁵¹ Travel demand analysis characteristics refers to the trip generation information, work and non-work trip generation information, trip distribution, assignment, and modal split information as discussed in City and County of San Francisco, *Transportation Impact Analysis Guidelines for Environmental Review*, October 2002, or subsequent updates, if applicable.

- Assistance and Confidentiality: Planning Department staff will assist the TDM Coordinator on questions regarding the components of the monitoring report and shall ensure that the identity of individual survey responders is protected.

The project applicant does not have the authority to dictate the types of consumer product used by its building occupants. **Mitigation Measure M-AQ-2** would require the project applicant to educate residential tenants and encourage commercial tenants to purchase products that are safer and better for the environment. However, given the project applicant does not have authority to require use of certain products, no reduction in ROG emissions can be attributed to this measure. Furthermore, the project applicant cannot require participation in all proposed measures under its TDM Plan, and the trip reduction number is stated as a goal and not an absolute requirement. However, if such measures are implemented and meet the 20 percent reduction goal, then they would reduce the ROG emissions generated by the project to an estimated 58 pounds per day and 10.5 tons per year.⁵² ROG emissions would remain above the significance threshold of 54 pounds per day and 10 tons per year. In order for the project to reduce ROG emissions to below the significance threshold, the project would have to reduce their one-way daily vehicle trips by approximately 53 percent.⁵³ A higher performance standard in the mitigation measure was determined speculative given the current limited amount of data in San Francisco regarding the effectiveness of Transportation Demand Management measures, the voluntary nature of compliance with TDM measures by users of

⁵² Calculation is based on project's ROG emissions from area source (44 lbs/day; 8 tons/year) + mobile source (13.3 lbs/day; 2.4 tons/year) + stationary source (0.03 lbs/day; 0.005 tons/year) + energy (0.70 lbs/day; 0.13 tons/year) = 58 lbs/day and 10.5 tons/year. The mobile source estimate is based on the project reducing estimated one-way daily vehicle trips from 6,567 (15 lbs/day; 2.8 tons/year) to 5,254 (12.3 lbs/day; 2.2 tons/year) plus the project's truck traffic ROG emissions (1 lbs/day; 0.2 tons/year) using the calculations of the project's vehicular ROG emissions in ENVIRON International Corporation, *Air Quality Technical Report: 5M Project*, March 2014, Table 7.

⁵³ This estimate is based on the project reducing estimated one-way daily vehicle trips from 6,567 (15 lbs/day; 2.8 tons/year) to 3,113 (7 lbs/day; 1.3 tons/year) using the calculations of the project's vehicular ROG emissions (auto traffic) in ENVIRON International Corporation, *Air Quality Technical Report: 5M Project*, March 2014, Table 7.

the buildings, and the uncertain feasibility of achieving a greater reduction goal. Therefore, this impact would be considered significant and unavoidable.

Impact AQ-3: Construction and operation of the Office Scheme or Residential Scheme would generate toxic air contaminants, including diesel particulate matter, which would expose sensitive receptors to substantial pollutant concentrations. (Less Than Significant with Mitigation)

Site preparation activities, such as demolition, excavation, grading, foundation construction, and other ground-disturbing construction activity would affect localized air quality during the construction phases of the proposed project. Short-term emissions from construction equipment during these site preparation activities would include directly emitted particulate matter (PM_{2.5} and PM₁₀) and toxic air contaminants such as DPM. Additionally, the long-term emissions from the project's mobile and stationary sources, as described in Impact AQ-2, would include particulate matter (PM_{2.5} and PM₁₀) and toxic air contaminants such as DPM, and ROG. The generation of these short- and long-term emissions could expose sensitive receptors to substantial pollutant concentrations of toxic air contaminants, resulting in a localized health risk.

The AQTR quantified excess cancer risk and PM_{2.5} concentrations based on the more conservative scheme. The Office Scheme would have the greater square footage and therefore would potentially generate higher levels of construction emissions. It was assumed both schemes would include the same operational stationary sources. It was estimated that the Office Scheme would have a higher vehicle trip generation and therefore would potentially generate higher operational mobile source emission levels.⁵⁴

The TACs and local health risks were modeling using the same 20 meter by 20 meter receptor grid in the Citywide modeling for receptor points identified within a one kilometer radius of the project site

⁵⁴ Note: the AQTR modeled the project's traffic emissions for both years 2024 (at project buildout) and 2040. Given the results indicate lower emissions in 2040, due to cleaner vehicle fleet assumptions, the results presented here represent the year 2024.

to identify project-level PM_{2.5} concentrations and excess cancer risk impacts at each of these receptor points. The methodologies for the TAC analysis were based on the most recent BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards,⁵⁵ which includes the use of USEPA's AERMOD model that requires inputs such as source parameters, meteorological parameters, topography information, and receptor parameters. The exposure parameters were obtained using risk assessment guidelines from the California Environmental Protection Agency⁵⁶ and BAAQMD,⁵⁷ are consistent with Citywide modeling, and include daily breathing rate, exposure time, exposure frequency, exposure duration, average time, and inhalation intake factors. Details of the toxics analysis and exposure parameters are included in the AQTR.⁵⁸

Excess cancer risk is evaluated over a 70-year lifetime, whereas PM_{2.5} concentrations are evaluated on an annual average basis. Therefore, the AQTR evaluated excess cancer risk as a result of exposure to both construction and operational emission together and PM_{2.5} concentrations for construction and operation separately.

Excess Cancer Risk – Construction and Operation. Results, as described in detail in the AQTR, indicate the estimated excess lifetime cancer risk from the project's emissions for a resident (assuming birth during construction and exposure to project-related emissions for 70 years) at locations outside the existing Air Pollutant Exposure Zone would be 22.2 per million. The AQTR results also indicate the estimated excess cancer risk from the project's emission at the Maximum Exposed Individual

⁵⁵ Bay Area Air Quality Management District, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2012. Available online at www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Risk%20Modeling%20Approach%20May%202012.ashx?la=en (accessed July 24, 2014).

⁵⁶ California Environmental Protection Agency, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessment*, August 2003. Available online at oehha.ca.gov/air/hot_spots/hraguidefinal.html (accessed July 24, 2014).

⁵⁷ Bay Area Air Quality Management District, *Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines*, January 2010. Available online at www.baaqmd.gov/~media/Files/Engineering/Air%20%20Toxics%20Programs/hrsa_guidelines.ashx (accessed July 24, 2014).

⁵⁸ ENVIRON International Corporation, *Air Quality Technical Report: 5M Project (AQTR)*, March 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Sensitive Receptor (MEISR) adjacent to the project site and within the existing Air Pollutant Exposure Zone would be 43.0 per million. The majority of excess cancer risk at the MEISR would be attributable to construction emissions (approximately 93 percent), followed by traffic emissions (approximately six percent), and stationary source emissions (approximately one percent). Therefore, measures to mitigate the effect are required.

Mitigation Measure M-AQ-3a: Construction Emissions Minimization. To reduce the health risk associated with construction of the Office Scheme or Residential Scheme, prior to and during construction, the project sponsor shall implement the following multi-part construction emissions minimization measure:

Construction Emissions Minimization Plan. Prior to issuance of a construction permit, the project sponsor shall submit a Construction Emissions Minimization Plan (Plan) to the Environmental Review Officer (ERO) for review and approval by an Environmental Planning Air Quality Specialist. The Plan shall detail project compliance with the following requirements:

1. All off-road equipment greater than 25 hp and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:
 - a) Where access to alternative sources of power are reasonably available, portable diesel engines shall be prohibited;
 - b) All off-road equipment shall have:
 - i. Engines that meet or exceed either U.S. Environmental Protection Agency (USEPA) or California Air Resources Board (ARB) Tier 2 off-road emission standards, and

- ii. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS).⁵⁹
- c) Exceptions:
- i. Exceptions to A(1)(a) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that an alternative source of power is limited or infeasible at the project site and that the requirements of this exception provision apply. Under this circumstance, the sponsor shall submit documentation of compliance with A(1)(b) for onsite power generation.
 - ii. Exceptions to A(1)(b)(ii) *may* be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that a particular piece of off-road equipment with an ARB Level 3 VDECS is: (1) technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, (3) installing the control device would create a safety hazard or impaired visibility for the operator, or (4) there is a compelling emergency need to use off-road equipment that are not retrofitted with an ARB Level 3 VDECS and the sponsor has submitted documentation to the ERO that the requirements of this exception provision apply. If granted an exception to A(1)(b)(ii), the project sponsor must comply with the requirements of A(1)(c)(iii).
 - iii. If an exception is granted pursuant to A(1)(c)(ii), the project sponsor shall provide the next cleanest piece of off-road equipment as provided by the step down schedules in Table A.

⁵⁹ Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement, therefore a VDECS would not be required.

Table A – Off-Road Equipment Compliance Step-down Schedule

Compliance Alternative	Engine Emission Standard	Emissions Control
1	Tier 2	ARB Level 2 VDECS
2	Tier 2	ARB Level 1 VDECS
3	Tier 2	Alternative Fuel*

How to use the table: If the requirements of (A)(1)(b) cannot be met, then the project sponsor would need to meet Compliance Alternative 1. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 1, then Compliance Alternative 2 would need to be met. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 2, then Compliance Alternative 3 would need to be met.

* Alternative fuels are not a VDECS.

2. The project sponsor shall require the idling time for off-road and on-road equipment be limited to no more than two minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment. Legible and visible signs shall be posted in multiple languages (English, Spanish, Chinese) in designated queuing areas and at the construction site to remind operators of the two minute idling limit.
3. The project sponsor shall require that construction operators properly maintain and tune equipment in accordance with manufacturer specifications.
4. The Plan shall include estimates of the construction timeline by phase with a description of each piece of off-road equipment required for every construction phase. Off-road equipment descriptions and information may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For VDECS installed: technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, reporting shall indicate the type of alternative fuel being used.
5. The Plan shall be kept on-site and available for review by any persons requesting it and a legible sign shall be posted at the perimeter of the construction site indicating to the public the basic requirements of the Plan and a way to request a copy of the Plan. The project sponsor shall provide copies of Plan to members of the public as requested.

- A. *Reporting.* Quarterly reports shall be submitted to the ERO indicating the construction phase and off-road equipment information used during each phase including the information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.

Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities. The final report shall indicate the start and end dates and duration of each construction phase. For each phase, the report shall include detailed information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.

- B. *Certification Statement and On-site Requirements.* Prior to the commencement of construction activities, the project sponsor must certify (1) compliance with the Plan, and (2) all applicable requirements of the Plan have been incorporated into contract specifications.

Mitigation Measure M-AQ-3b: Diesel Backup Generator and Fire Pump Specifications. To reduce the health risk associated with operation of the Office Scheme or Residential Scheme, the project sponsor shall implement the following measure:

- A. All new diesel backup generators and fire pumps shall have:
1. Engines that meet or exceed California Air Resources Board (ARB) Tier 2 off-road emission standards, and
 2. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDES).⁶⁰
- B. All new diesel backup generators and fire pumps shall have an annual maintenance testing limit of 20 hours, if feasible, and up to a maximum of 30 hours per engine.

⁶⁰ Equipment with engines meeting Tier 4 Final emission standards automatically meet this requirement, therefore a VDECS would not be required.

- C. For each new diesel backup generator or fire pump permit submitted for the project, including any associated generator pads, engine and filter specifications shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a permit for the generator or fire pump from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators and VDECS shall be maintained in good working order in perpetuity and any future replacement of the diesel backup generators, fire pumps, and Level 3 VDECS filters shall be required to be consistent with these emissions specifications. The operator of the facility shall maintain records of the testing schedule for each diesel backup generator and fire pump for the life of that diesel backup generator and fire pump and provide this information for review to the Planning Department within three months of requesting such information.

Implementation of **Mitigation Measures M-AQ-3a**, Construction Emissions Minimization, and **M-AQ-3b**, Diesel Backup Generator and Fire Pump Specifications, would reduce the magnitude of this impact to a less-than-significant level. The requirements, particularly the requirements for construction equipment, diesel backup generators, and fire pumps with Tier 2 engines and Level 3 Verified Diesel Emission Control Strategy (VDECS) would reduce the excess cancer risk from the project's emissions for a resident at locations outside the existing Air Pollutant Exposure Zone to approximately 4.6 per million. These mitigation measure would also reduce the excess cancer risk from the project's emissions for the MEISR, which is within the existing Air Pollutant Exposure Zone, to approximately 6.4 per million. Therefore, compliance with **Mitigation Measures M-AQ-3a** and **M-AQ-3b** would reduce excess cancer risk impacts to sensitive receptors to a less-than-significant level.

PM_{2.5} Concentrations – Construction. Results, as described in detail in the AQTR, indicate that during construction of the proposed project, PM_{2.5} concentrations at locations outside the existing Air Pollutant Exposure Zone would not exceed 0.3 µg/m³. However, PM_{2.5} concentrations at sensitive receptor locations within the existing Air Pollutant Exposure Zone would be equivalent to 0.2 µg/m³ at the MEISR, resulting in a significant impact.

Implementation of **Mitigation Measure M-AQ-3a**, Construction Emissions Minimization, and **M-AQ-3b**, Diesel Backup Generator and Fire Pump Specifications, would reduce the magnitude of this

impact to a less-than-significant level. These requirements, particularly the requirements for construction equipment, diesel backup generators, and fire pumps with Tier 2 engines and Level 3 VDECS would reduce PM_{2.5} concentrations from the project at the MEISR, which is within the existing Air Pollutant Exposure Zone, to approximately 0.04 µg/m³. Therefore, compliance with **Mitigation Measure M-AQ-3** would reduce PM_{2.5} concentrations from construction activity at sensitive receptor locations to a less-than-significant level.

PM_{2.5} Concentrations – Operation. Results, as described in detail in the AQTR, indicate that during operation of the project, PM_{2.5} concentrations at locations outside and within the existing Air Pollutant Exposure Zone would not exceed 0.1 µg/m³. Therefore, PM_{2.5} concentrations upon project build-out at sensitive receptor locations would be less than significant.

Impact AQ-4: The Office Scheme or Residential Scheme could expose onsite sensitive receptors to substantial air pollutant concentrations through generation of and by locating sensitive receptors near sources of toxic air contaminants. (Less Than Significant with Mitigation)

The proposed project would include development of residential units, which is considered a sensitive land use for purposes of air quality evaluation. As discussed above, the project site is located in an area that experiences higher levels of air pollution and is within the Air Pollutant Exposure Zone. The proposed project therefore would have the potential to expose sensitive receptors to substantial concentrations of air pollutants.

Implementation of **Mitigation Measure M-AQ-4**, Enhanced Ventilation Measures, would reduce the magnitude of this impact to a less-than-significant level by requiring the project sponsor to install an enhanced ventilation system capable of achieving protection from PM equivalent to that associated with a Minimum Efficiency Reporting Value 13 filtration (i.e., removing 80 percent of outdoor particulates indoors). With implementation of **Mitigation Measure M-AQ-4**, the proposed project would result in a less-than-significant impact with respect to exposing sensitive receptors to substantial levels of air pollution.

Mitigation Measure M-AQ-4: Enhanced Ventilation Measures. To reduce the health risk associated with toxic air contaminants the project sponsor shall implement the following:

- *Air Filtration and Ventilation Requirement for Sensitive Land Uses.* Prior to receipt of any certificate of occupancy for proposed building(s) containing sensitive land uses as defined by the Planning Department, the project sponsor shall submit an enhanced ventilation plan for the proposed building(s). The enhanced ventilation plan shall be prepared and signed by, or under the supervision of, a licensed mechanical engineer or other individual authorized by the California Business and Professions Code Sections 6700–6799. The enhanced ventilation plan shall show that the building ventilation system will be capable of achieving protection from particulate matter (PM_{2.5}) equivalent to that associated with a Minimum Efficiency Reporting Value (MERV) 13 filtration, as defined by the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) standard 52.2. The enhanced ventilation plan shall explain in detail how the project will meet the MERV-13 performance standard identified in this measure.
- *Maintenance Plan.* Prior to receipt of any certificate of occupancy, the project sponsor shall present a plan that ensures ongoing maintenance for the ventilation and filtration systems.
- *Disclosure to Buyers and Renters.* The project sponsor shall also ensure the disclosure to buyers (and renters) that the building is located in an area within existing sources of air pollution and as such, the building includes an air filtration and ventilation system designed to remove 80 percent of outdoor particulate matter and shall inform occupants of the proper use of the installed filtration system.

Impact AQ-5: The Office Scheme or Residential Scheme would not conflict with implementation of the Bay Area 2010 Clean Air Plan. (Less Than Significant)

The most recently adopted air quality plan for the SFBAAB is the 2010 Clean Air Plan (Clean Air Plan). The Clean Air Plan is a road map that demonstrates how the Bay Area will, in accordance with the requirements of the California Clean Air Act, implement all feasible measures to reduce ozone. It also provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse

gases. In determining consistency with the Clean Air Plan, this analysis considers whether the project would (1) support the primary goals of the Clean Air Plan, (2) include applicable control measures from the Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the Clean Air Plan.

The primary goals of the Clean Air Plan are to (1) reduce emissions and decrease concentrations of harmful pollutants, (2) safeguard the public health by reducing exposure to air pollutants that pose the greatest health risk, and (3) reduce greenhouse gas emissions. To meet the primary goals, the Clean Air Plan recommends specific control measures and actions. These control measures are grouped into various categories and include stationary- and area-source measures, mobile-source measures, transportation control measures, land-use measures, and energy and climate measures. The Clean Air Plan recognizes that, to a great extent, community design dictates individual travel mode and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and greenhouse gases from motor vehicles is to channel future Bay Area growth into communities where goods and services are located nearby and people have a range of viable transportation options. To this end, the Clean Air Plan includes 55 control measures aimed at reducing air pollutants in the SFBAAB.

The measures most applicable to the proposed project are transportation control measures and energy and climate control measures. The proposed project's impact with respect to GHGs was discussed in the Greenhouse Gas Emissions Section of the Initial Study (pages 78–101). As stated in the discussion, the proposed project would be substantially compliant with the City's Greenhouse Gas Reduction Strategy and thus would not result in any significant impacts associated with an increase in GHGs or conflict with measures adopted for the purpose of reducing such emissions.

The compact urban development of the proposed project and high availability of viable transportation options ensures that residents and employees could bicycle, walk, and ride transit to and from the project site instead of taking trips via private automobile. These features ensure that the project would avoid substantial growth in automobile trips and vehicle miles traveled. The proposed project's anticipated 730 net new peak hour vehicle trips and approximately 6,567 net new daily

vehicle trips (under office maximum option) during the operational phase would result in an increase in air pollutant emissions. Transportation control measures that are identified in the Clean Air Plan are implemented by the *San Francisco General Plan* and the Planning Code, for example, through the City's Transit First Policy, the bicycle parking requirements, and transit impact development fees. Additionally, the project would incorporate a TDM program. Compliance with these requirements would ensure the project includes relevant transportation control measures specified in the Clean Air Plan. Therefore, the proposed project would include applicable control measures identified in the Clean Air Plan and supports the Clean Air Plan's primary goals.

Examples of a project that could cause the disruption or delay of Clean Air Plan control measures are projects that would preclude the extension of a transit line or bike path or projects that propose excessive parking beyond City parking requirements. The proposed project maintains the existing character of the project site, which is a dense, walkable urban area near a concentration of regional and local transit service. It would not preclude the extension of a transit line or a bike path or any other transit improvement and, thus, would not disrupt or hinder implementation of control measures identified in the Clean Air Plan.

For the reasons described above, the proposed project would not interfere with implementation of the Clean Air Plan, and because the proposed project would be consistent with the applicable air quality plan that demonstrates how the region will improve ambient air quality and achieve the State and federal ambient air quality standards, this impact would be less than significant.

Impact AQ-6: The Office Scheme or Residential Scheme would not create objectionable odors that would affect a substantial number of people (Less Than Significant)

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered less than significant. Odors from existing uses are not generally noticeable beyond the site boundary. Other potential land uses associated with the proposed project, including restaurants, are not

expected to produce any offensive odors that would result in frequent odor complaints. Therefore, odor impacts would be less than significant.

Cumulative Impacts. This section discusses the cumulative impacts to air quality that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Criteria Air Pollutants. The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. The proposed project's construction (Impact AQ-1) emissions would not exceed the project-level thresholds for criteria air pollution pollutants; however, the proposed project's operational (Impact AQ-2) emissions do exceed the threshold for ROG emissions. Therefore, the proposed project would be considered to result in a cumulatively considerable contribution to regional air quality impacts.

Impact C-AQ-1: The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future development in the project area would contribute to cumulative regional air quality impacts. (Significant and Unavoidable)

Implementation of **Mitigation Measure M-AQ-2** would reduce this impact, however, not to a less-than-significant level.

Cumulative Health Risks. As discussed above, the project site is located in an area that already experiences poor air quality. The project would add new sensitive land uses and new sources of TACs (e.g., new mobile, area, and stationary sources) within the area already adversely affected by air quality, resulting in a considerable contribution to cumulative health risk impacts on sensitive receptors. This would be a significant cumulative impact.

Impact C-AQ-2: The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future development in the project area would contribute to cumulative health risk impacts on sensitive receptors. (Less Than Significant with Mitigation)

The proposed project would be required to implement **Mitigation Measure M-AQ-3a**, Construction Emission Minimization, which could reduce construction-period emissions; **Mitigation Measure M-AQ-3b**, Diesel Backup Generator and Fire Pump Specifications, which would limit diesel generator and fire pump emissions; and **Mitigation Measure M-AQ-4**, Enhanced Ventilation Measures, which requires that the building be designed to reduce outdoor infiltration of fine particulate matter indoors by 80 percent. Implementation of these mitigation measures would reduce the project's contribution to cumulative air quality impacts to a less-than-significant level.

G. WIND AND SHADOW

This section, which discusses the anticipated effects of the proposed project on wind and shadow patterns, is based on a Pedestrian Wind Study¹ prepared by Rowan Williams Davies & Irwin Inc. (RWDI) and a Shadow Technical Reports^{2,3} prepared by Environmental Vision (representative diagrams are provided as **Figures IV.G-18 through IV.G-26**).

Environmental Setting

The following section provides background information about wind and shadow conditions and applicable regulations.

Wind

Background. Generally, winds in San Francisco originate on the Pacific Ocean, and blow through the City in an easterly direction. Average wind speeds are highest in the summer and lowest in the winter. However, the strongest peak winds occur during the winter. The highest average wind speeds occur during the mid-afternoon and the lowest wind speeds occur during the morning. The winds that are most prevalent in San Francisco are those from the northwest, west-northwest, west, and west-southwest.

¹ RWDI, *Final Report, Pedestrian Wind Study*, October 10, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

² Environmental Vision, *Generalized Shadow Analysis for Affected Open Space, 5M Project, San Francisco*, September 2, 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

³ Environmental Vision, *Boeddeker Park Shadow Analysis, 5M Project, San Francisco*, September 2, 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

A building's exposure, massing, and orientation affect nearby ground-level wind accelerations. Exposure is a measure of the degree to which a building extends above surrounding structures into the wind stream. A building surrounded by taller structures is unlikely to cause adverse wind accelerations at the ground level, while even a small building can cause wind acceleration if it is freestanding and exposed. Groups of structures tend to slow the winds near ground level, due to the friction and the drag of the structures themselves on winds. Buildings that are much taller than their surrounding buildings intercept and redirect winds that might otherwise flow overhead, and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence. These redirected winds can be relatively strong and also relatively turbulent, and can be incompatible with the intended uses of nearby ground-level spaces, depending on the level and type of pedestrian use.

Massing affects how much wind a building intercepts and whether wind accelerations occur at ground level. In general, slab-shaped buildings (oriented perpendicular to the prevailing wind direction) have the greatest potential for wind acceleration, and buildings with an unusual shape or setbacks have a lesser effect. Generally, the more geometrically complex the building, the less ground level wind acceleration that would be expected to occur. Building orientation also affects the amount of wind a structure intercepts and the corresponding extent of wind acceleration. Buildings with a wide axis perpendicular to prevailing winds will generally cause greater ground-level wind acceleration.

The comfort of pedestrians varies under different conditions of sun exposure, temperature, and wind speed. Winds up to 4 miles per hour (mph) have no noticeable effect on pedestrian comfort. With velocities between 4 to 8 mph, wind is felt on the face. Winds between 8 to 13 mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole, while winds between 13 to 19 mph will raise loose paper, dust, and dry soil, and will disarrange hair. For wind velocities between 19 to 26 mph, the force of the wind will be felt on the body. At 26 to 34 mph, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 mph can result in loss of balance, and gusts can blow people over.

The site and its surroundings are in a windy location, with wind speeds averaging 12 mph. In the vicinity of the site, the highest wind speeds occur along Howard Street east of Fifth Street and along Fifth Street south of Tehama Street. Wind speeds exceeded 11 mph approximately 14 percent of the time.

Regulatory Setting. In order to provide a comfortable wind environment for people in San Francisco, the City has established comfort criteria to be used in the evaluation of proposed buildings. In the context of CEQA, these comfort criteria are compared to a project's anticipated wind speeds for informational purposes, not to identify significant effects. Section 148 of the Planning Code outlines these criteria for the Downtown Commercial (C-3) Districts, including the project site. Currently, the parcels within the site located at 190 Fifth Street (Zihn Building); 910 Howard Street (J.M. Kepner Building); 924-926 Howard Street (a light industrial building); and 912 Howard Street (a vacant industrial building) are located within the Residential Services District (RSD). All other parcels in the site are located in the C-S-3 District. After project approval, the entire site would be located within the Downtown Support (C-3-S) District.

The comfort criteria are based on pedestrian-level wind speeds that include the effects of turbulence; these are referred to as "equivalent wind speeds" (defined in the Planning Code as "an hourly mean wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians").

Planning Code Section 148 establishes equivalent wind speeds of 7 mph as the comfort criterion for seating areas and 11 mph as the comfort criterion for areas of substantial pedestrian use, and states that new buildings and additions to buildings may not cause ground-level winds to exceed these levels more than 10 percent of the time year-round between 7:00 a.m. and 6:00 p.m. If existing wind speeds exceed the comfort level, or when a project would result in exceedances of the comfort criteria, an exception may be granted, pursuant to Section 309, if the building or addition cannot be designed to meet the criteria "without creating an unattractive and ungainly building form and without unduly restricting the development potential" of the site. The proposed Fifth and Mission SUD would eliminate the requirements for an exception from the comfort criteria and instead would

provide that development would need to comply with D4D requirements related to wind baffling measures to address wind impacts.

Section 148 also establishes a hazard criterion, which is a 26 mph equivalent wind speed for a single 1-hour period, or approximately 0.0114 percent of the time. Under Section 148, new buildings and additions may not cause wind speeds that meet or exceed this hazard criterion. This hazard criterion is used to determine significant effects on wind patterns pursuant to CEQA, and an exceedance of this criterion is considered a significant impact pursuant to CEQA. Under Section 148, no exception may be granted for buildings that result in winds that exceed the hazard criterion. The comfort criteria are based on wind speeds that are measured for 1 minute and averaged. In contrast, the hazard criterion is based on wind speeds that are measured for 1 hour and averaged; when using the same metric as the comfort criteria wind speeds, the hazard criterion wind speed is a 1-minute average of 36 mph.

Shadow

Background. In an urban environment, shadow is a function of the height, size, and massing of buildings and other elements of the built environment, and the angle of the sun. The angle of the sun varies due to the time of day (rotation of the earth) and the change in seasons (elliptical orbit). The longest shadows are cast during the winter (when the sun is at the greatest distance below the celestial equator) and the shortest shadows are cast during the summer (when the sun is at the greatest distance above the celestial equator). At the time of the summer solstice (which falls on June 21 in 2014), the sun is directly overhead at noon (in the northern hemisphere), and the longest day and shortest night occur on this date. Conversely, the shortest day and longest night occur on the winter solstice (which falls on December 21 in 2014). The vernal and fall equinoxes represent the half-way point between the shortening and lengthening phases at the solstices. Thus measuring shadow lengths during the summer and winter solstices captures the extremes of shadow patterns that occur throughout the year.

Open Spaces in the Vicinity of the Project Site Under Public Jurisdiction. There are several parks, recreation, and open space facilities in the vicinity of the project site that could be affected by project-related shadow. The location of these facilities relative to the project site is depicted in **Figure IV.G-1**. The following subsection includes a brief description of each of these facilities, organized into open spaces under the jurisdiction of the Parks and Recreation Commission (and subject to the provisions of Planning Code Section 295, described below under “Regulatory Setting”), other public open spaces, and Privately Owned Public Open Spaces (POPOS).

Open Spaces Under the Jurisdiction of the Recreation and Park Commission. Boeddeker Park, located 0.4 mile to the northwest of the site, is the only open space under the jurisdiction of the Recreation and Park Commission that could be affected by project-related shadow. Opened in 1985, Boeddeker Park is located in the Tenderloin Neighborhood of the Downtown/Civic Center area of the City. The park was developed to serve nearby residents, whose population is heavily represented by seniors and low income households. The park is currently closed to the public while undergoing its second major renovation. The renovation is sponsored by the Trust for Public Land, and the San Francisco Recreation and Parks Department (RPD) is implementing the park redesign and improvements. Construction began in March 2012 and is nearing completion; as of October 2014, the park’s re-opening is expected in fall of 2014. The park site is roughly “L” shaped with frontage on three streets: Eddy, Jones and Ellis Streets. The overall size of Boeddeker Park is approximately 1 acre. There is more than a 15-foot elevation difference between the north and south site edges. The description below is based on the current, under-implementation park design. **Figure IV.G-2** depicts Boeddeker Park uses and layout. **Figure IV.G-3** includes photographs of the various uses within the park.

The smaller northern portion of the park fronts Ellis Street on its north side, mid-block between Jones and Taylor Streets, while the larger, southern, portion includes frontage along both Jones and Eddy Streets. The northern portion of the park includes three level, paved “patio” areas with seating; one of these terraces is devoted to equipment for exercise. Other than the exercise equipment patio, the northern park area is intended primarily for passive use. The larger southern portion of the park has street frontage along the south and west sides. Parts of the western and southern edges of the open space are slightly elevated in relationship to the adjacent sidewalks and a perimeter fence will rest on a low concrete retaining wall. Near the sidewalk along Eddy Street, several small metal tables with chairs are mounted in the pavement within the southern edge of the park. An entry gate is situated mid-block along Eddy Street, adjacent to the new clubhouse building that occupies the southeast corner of the park. The clubhouse has an “L” shaped footprint, with its greatest length running along the park’s western boundary. This building is approximately 15-feet high with a steeply peaked roof that rises at the southern end to approximately 30 feet above the adjacent sidewalk. Paved seating areas are interspersed between the clubhouse and the other open space features.

The southwest corner of the park near Jones and Eddy Streets includes a lawn area measuring about 100 feet by 45 feet. Just north of the lawn along Jones Street, a paved multi-purpose court and a children’s play area with climbing equipment and swings are located directly east of the court near the clubhouse building. Landscaping in the southern part of the park consists of new planting and some existing, mature trees. In addition, mature street trees line the sidewalk along both Eddy and Jones Streets.

Other Public Open Spaces. There are several public open spaces (not under the jurisdiction of the Recreation and Park Commission) in the vicinity of the project site that could be affected by project shadow. Typical photographs of these facilities are provided in **Figure IV.G-4**. Each is briefly described below.

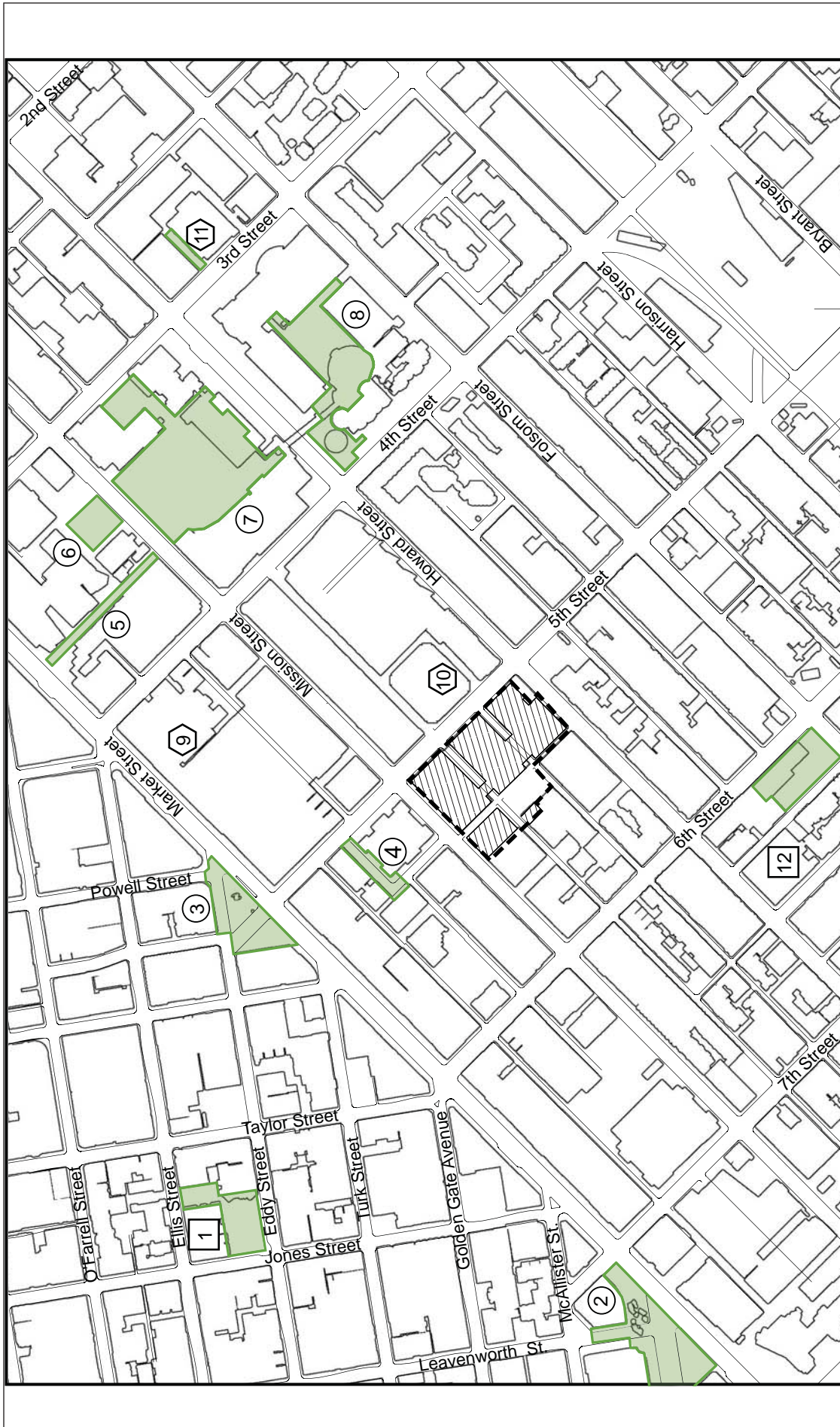






FIGURE IV. G-1

- Recreation and Park Commission Properties**
 - 1 Boeddeker Park
 - Gene Friend Recreation Center
 - 12
- Other Public Open Spaces**
 - 2 U.N. Plaza
 - 3 Hallidie Plaza
 - 4 Mint Plaza
 - 5 Yerba Buena Lane
 - 6 Jessie Square
 - 7 Yerba Buena Gardens North
 - 8 Yerba Buena Children's Play Area
- Privately Owned Public Open Spaces (POPOs)**
 - 9 Westfield Sky Terrace
 - 10 Intercontinental Hotel/Pacific Terrace
 - 11 Moscone Plaza

 Open Space Boundary
 Project Site

 TRUE
 0 800 FEET

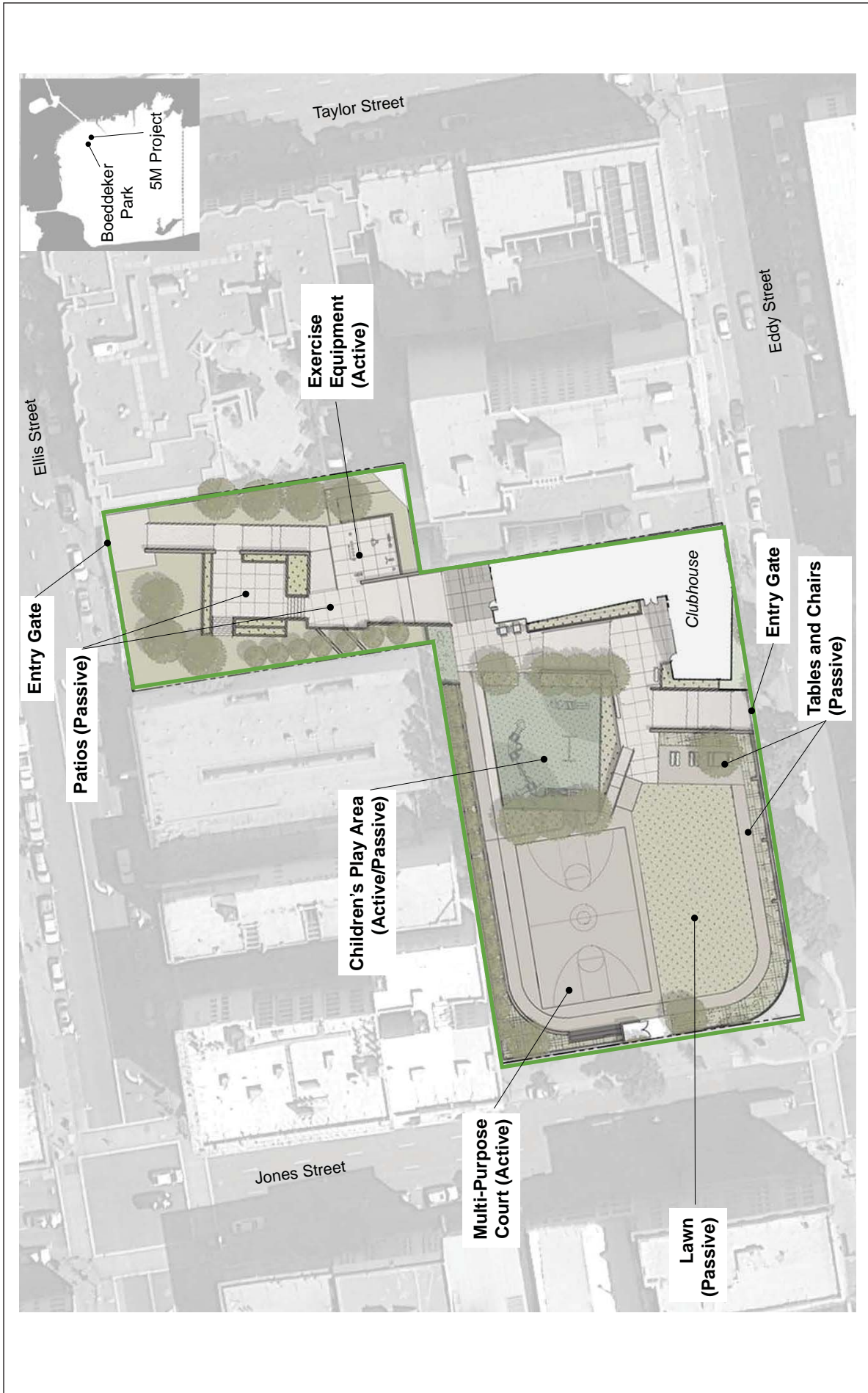
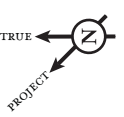
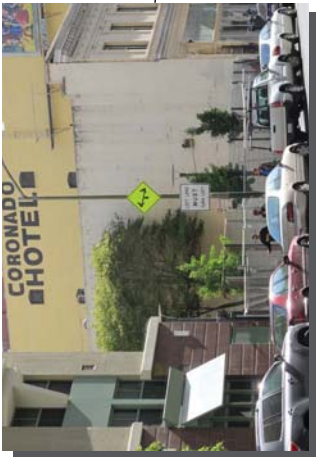


FIGURE IV.G-2



Open Space Boundary



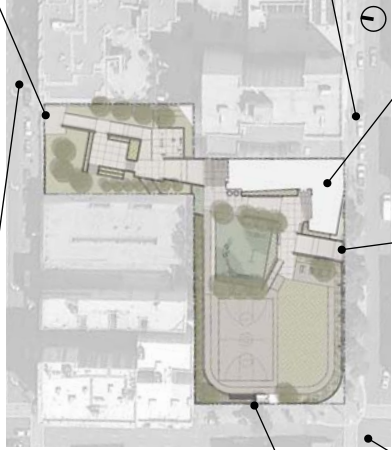
Boeddeker Park frontage along Ellis Street



Multi-purpose court area with play structures and clubhouse beyond



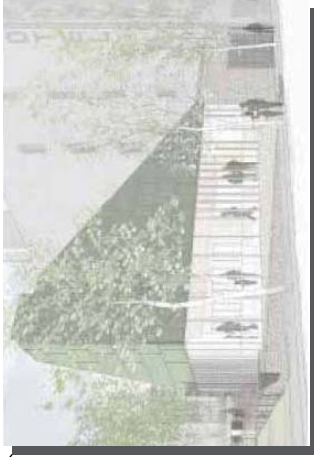
Boeddeker Park from corner of Jones and Eddy Streets
 Note: Photos taken March 22 and May 10, 2014 during construction. Park scheduled to reopen summer, 2014.



Ellis Street entrance and paved walkway with raised planter beds, and Clubhouse beyond



Clubhouse and park frontage along Eddy Street



Architects rendering of Clubhouse (WRNS Studio)



Eddy Street park entrance and play structures in center and new clubhouse on right

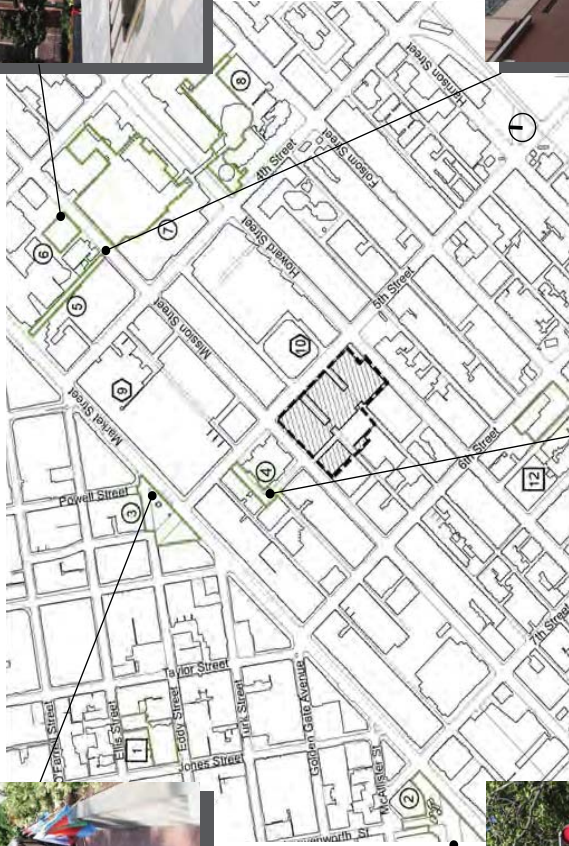
FIGURE IV.G-3



Hallidie Plaza



Jessie Square



U.N. Plaza



Yerba Buena Lane



Mint Plaza

Note: See Figure IV.G-1 for legend of open space locations

FIGURE IV.G-4

U.N. Plaza. Located approximately 0.4-mile west of the project site, U.N. Plaza was created in 1975 when one block of Fulton Street between and Hyde and Market Streets was permanently closed to vehicles and redesigned as a pedestrian corridor. The approximately 2.6-acre public open space is located in the northwest quadrant of Market and Seventh Streets, in the Civic Center area. A fountain designed by the landscape architect Lawrence Halprin is at the eastern end of the plaza, near the terminus of Leavenworth Street. Entrances to both the San Francisco Municipal Railway (MUNI) Metro and Bay Area Rapid Transit (BART) underground lines are located within the open space. Mature trees, which themselves cast shadow, line the wide brick walkway that is enclosed on the sides by 4- to 6- story Civic Center area buildings. At the Civic Center MUNI/BART Station entrance, low walls and lawn areas provide seating opportunities for passive use; however, the plaza functions mainly as a pedestrian hub for people walking between the Civic Center and Market Street and public transportation. The Heart of the City Farmers Market is held at the U.N. Plaza year-round on Wednesday and Sunday. The Plaza is also available for public events by reservations through the RPD.

Hallidie Plaza. Hallidie Plaza is located adjacent to the turn-around point for the Powell Street cable car line at Market and Powell Streets. This public open space is approximately 0.1-mile north of the project site. Opened in 1973, the partially subterranean plaza coves approximately 1 acre and consists of three open space levels. Escalators connect the street level plaza with the lowest level, which contains the entrance to the Powell Street Station for both the BART and MUNI subway lines. An elevator also brings transit passengers to street level on the south side of the plaza and a visitor information center is located in the underground walkway that passes under Market Street to Fifth Street. Mature street trees line the north side of Market Street, casting shade on the plaza. Trees within the sunken plaza surround a small cafe and seating area. Other than patrons of the cafe, most people using the lower level of this open space are exiting or entering the transit station. At street level, sidewalk vendors line the plaza where clusters of people frequently wait to board the Powell Street cable car. The San Francisco Department of Public Works (DPW) maintains this open space.

Mint Plaza. Built in 2007, Mint Plaza is an approximately 0.3-acre open space located less than 300 feet north of the project site. The space incorporates a former portion of Jessie Street to create a pedestrian plaza and public use area between Mint and Fifth Streets. The plaza is paved in grey composite stone pavers and is situated between the historic Old U.S. Mint Building to the south and residential buildings to the north. The plaza provides pedestrian access to and from nearby shopping areas, as well as ground level retail and cafe space. The space is also designed for passive use; two raised areas provide informal seating along the edges and moveable chairs are scattered throughout the plaza. A planted trellis shades the north side of the plaza. The plaza is the site of periodic programmed open space events including farmers markets, music, and dance festivals. The open space is maintained and managed by Friends of Mint Plaza.

Yerba Buena Lane. Located approximately 0.3 mile northeast of the project site, Yerba Buena Lane is an approximately 50-foot wide, 550-foot long pedestrian midblock walkway that connects Market Street with Mission Street, and opens to a crosswalk that leads into the Yerba Buena Gardens open space along the south side of Mission Street. The passageway, opened in 2002, is mostly surrounded by tall buildings, including The Marriott and Four Seasons Hotels, as well as the Contemporary Jewish Museum and historic St. Patrick Church. Ground floor retail spaces face the pedestrian walkway that includes bench seating, providing for both active and passive use of this linear open space.

Jessie Square. Jessie Square is located approximately 0.3-mile northeast of the project site, on the north side of Mission Street between Third and Fourth Streets. The approximately 0.78-acre plaza was constructed in 2008 and is bordered by the historic St. Patrick Church to the west, the Contemporary Jewish Museum to the north, and buildings of over 30-stories to the east. The south side of the square is open along Mission Street and faces Yerba Buena Gardens. Its paved and gently terraced surface includes limited table seating along the north side, with benches randomly spaced throughout and a water pond feature near the center. The plaza is designed primarily for passive use. Except for trees along the west side, and the north edge near the tables, landscaping in this open space is generally limited to low-growing plants near the pond and grassy areas surrounding some seating areas. Jessie Square is also used for programmed outdoor events, including the Yerba Buena Gardens Festival.

Yerba Buena Gardens. Yerba Buena Gardens/Moscone Convention Center is located approximately 0.3 mile east of the site and opened in 1993. Owned by the City of San Francisco, this facility occupies approximately 22 acres on the two blocks bounded by Mission, Third, Folsom, and Fourth Streets in the SoMa neighborhood. The complex includes a mix of two- to six-story buildings, cultural arts facilities, subterranean convention halls, and outdoor landscaped open space. For purposes of this shadow evaluation, two distinct Yerba Buena Gardens open space areas are identified. Yerba Buena Gardens North is located north of Howard Street and the Yerba Buena Children’s Play Area is located south of Howard Street. For the most part, the open spaces at Yerba Buena Gardens are built on top of below grade convention center structures. As a result, the publicly accessible open spaces are generally situated somewhat above the elevation of surrounding street levels. A proposed expansion of the Moscone Center is currently under review (as of May 2014). This proposed expansion would likely affect the layout of the existing Yerba Buena Gardens North, the Yerba Gardens Children’s Play Area, and surrounding buildings.

- Yerba Buena Gardens North. Yerba Buena Gardens North occupies approximately 5 acres. The layout of and uses within this park are depicted in **Figure IV.G-5** and photographs are depicted in **Figure IV.G-6**. Much of the eastern third of the surrounding block is occupied by two structures that comprise the Yerba Buena Center for the Arts. Situated at the northeast and southeast corners, these buildings are separated by the East Garden, a bi-level patio area. The upper level contains grass covered with mature trees and is surrounded by an “L” shaped water feature. From the East Garden a walkway leads west to the main open space of Yerba Buena Gardens North: a central elliptical-shaped undulating lawn area known as the Esplanade that is encircled by a 10-foot-wide paved pedestrian walkway edged by a set of benches. The east and west ends of the grass-covered oval lawn have large tree clusters and are slightly raised in grade. Landscaping and hardscape elements at the east end form a butterfly garden and a stage, while at the west end a series of notched out concrete seating areas separate the walkway and lawn area. Along part of the garden’s north edge, gently terraced lawns lead down to Mission Street. The south end of the Esplanade is enclosed by the Moscone North Lobby structure, with an upper level open space that includes two rooftop glass-walled cafes and a paved terrace with views overlooking the Esplanade and the

skyline beyond. A fountain cascades from the Sister City Garden located on this roof-top patio down past the Martin Luther King, Jr. Memorial on the level below. The four-story Metreon building occupies the western portion of the block with a glass facade framing the western end of the Yerba Buena Gardens North open space.

- Yerba Buena Children's Play Area. The Children's Play Area, also known as the Children's Garden, is located on the block bounded by Howard Street to the north, Folsom Street to the south, Fourth Street to the west, and Third Street to the east. The layout of and uses within this park are depicted in **Figure IV.G-7** and photographs are depicted in **Figure IV.G-8**. The western portion of the open space includes the Amphitheater, which is composed of shallow terraced lawn and concrete ledges configured in a pair of offset semi-circles that are approximately 150 feet in diameter. Trees surround each half circle. The Play Circle, a sunken area, covered with a soft rubber surface, lies directly east of the Amphitheater. This colorful depression is approximately 115 feet in diameter and includes play structures, climbing grips, a sand/water play area, and slides, as well as seating areas. East of the play circle are two small lawn areas, a sundial, and a landscaped maze, as well as a Learning Garden, separated by a fence, and nestled in the northeast corner. Rows of trees border the north and east sides of the Children's Play Area, separating the public open space from the convention center buildings.

POPOS. There are several privately-owned, but publicly-accessible open spaces in the vicinity of the project site that could be affected by project shadow. Photographs of some of these facilities are depicted in **Figure IV.G-9**. Each is briefly described below.

Westfield Sky Terrace. Located on Market Street between Fourth and Fifth Streets and approximately 0.1 mile north of the project site, the Westfield Sky Terrace is a 9th floor rooftop open space at 835 Market Street, within the Westfield shopping mall. The terrace space measures approximately 150 feet by 40 feet. The space is surrounded on three sides by rooftop mechanical equipment, but is open to the southwest and features direct views of the historic 1908 Emporium dome, as well as a vista that includes City Hall, Sutro Tower, and Potrero Hill. Benches situated throughout the space provide seating. The terrace is open daily during business hours (10:00 a.m. until 8:30 p.m., with a closing hour of 7:00 p.m. on Sundays).

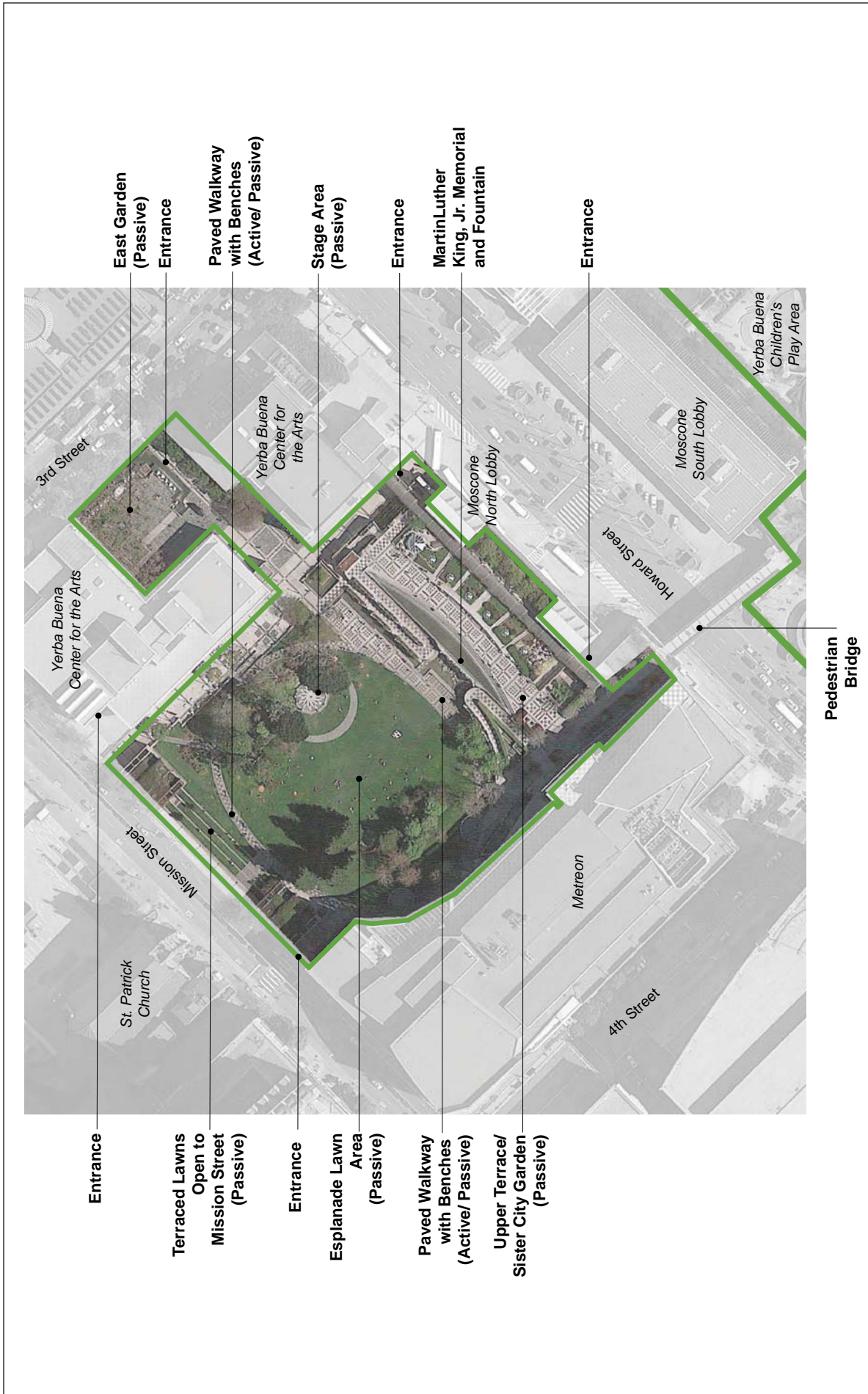
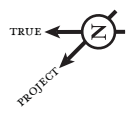


FIGURE IV.G-5

Open Space Boundary





Paved walkway and seating area at west end of Esplanade with Metreon building at right



West side of Esplanade with Metreon building on left and Marriott Hotel beyond on right



Walkway and seating in foreground with Esplanade and Stage Area, near center, beyond



Terraced Lawns along Mission Street



East Garden with SF Museum of Modern Art beyond



Landscaped paved walkway on Upper Terrace



Martin Luther King, Jr. Memorial and Fountain with paved walkway and Esplanade on left

FIGURE IV. G-6

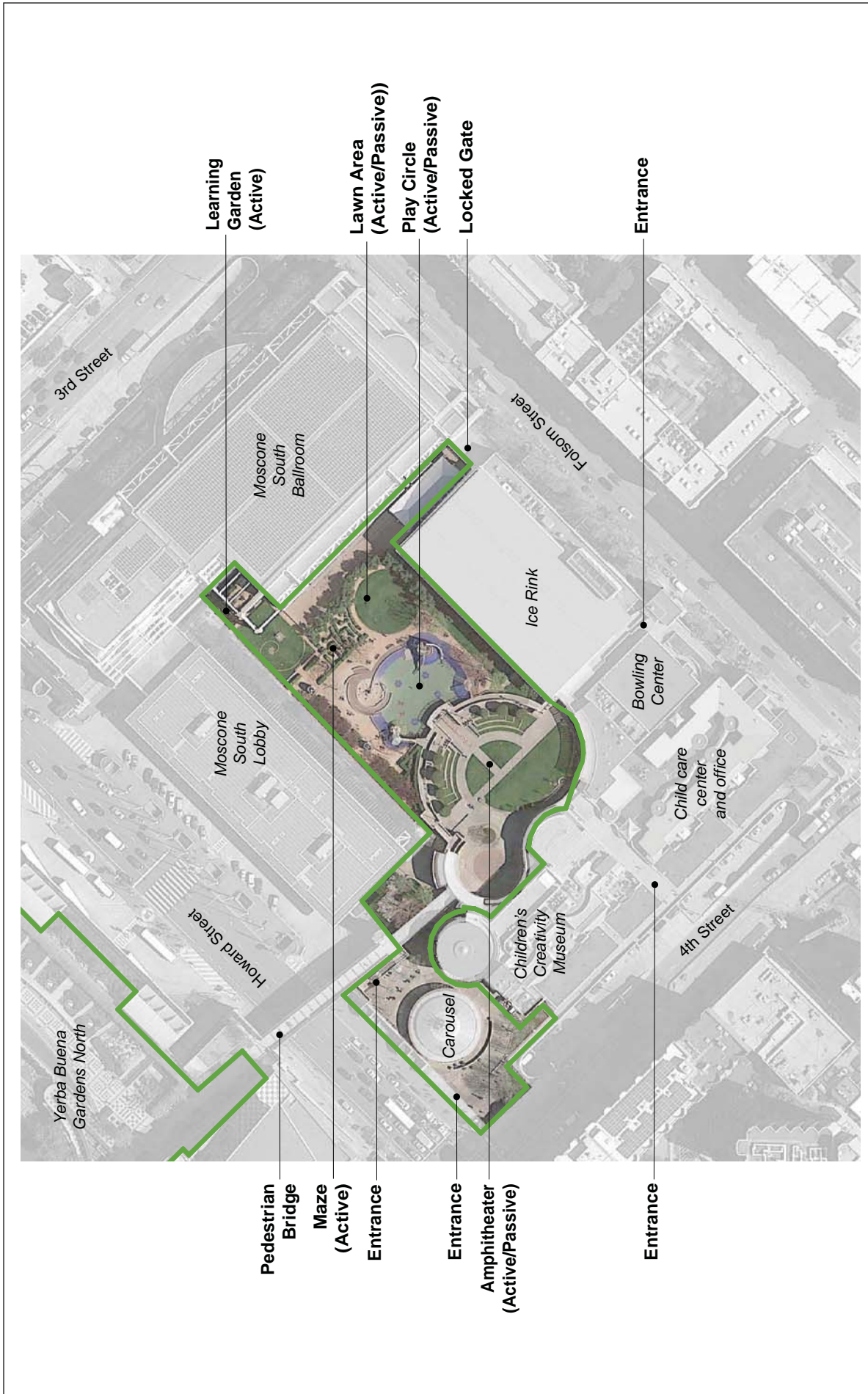
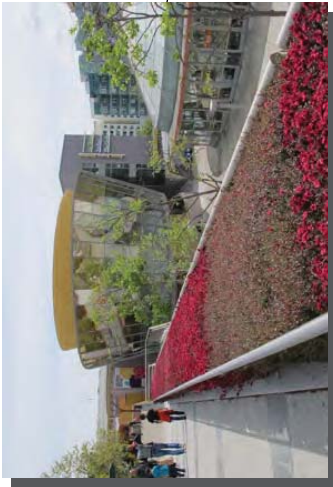


FIGURE IV.G-7



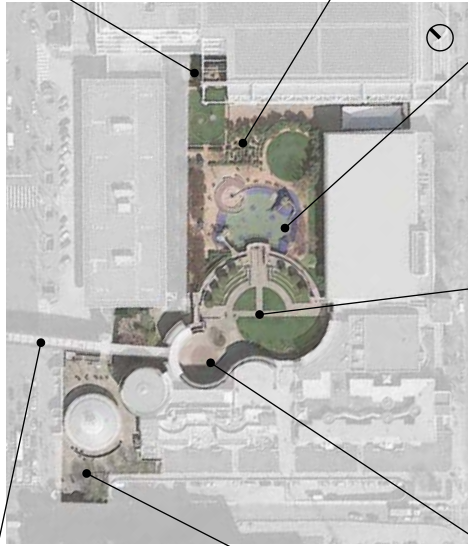
Children's Creativity Museum and Carousel from Pedestrian Bridge



Carousel and main entrance ramp at Fourth and Howard Streets



Seating near main entrance with Amphitheater beyond



Learning Garden



Children's Maze with Moscone South and Ice Rink buildings beyond



Play Circle

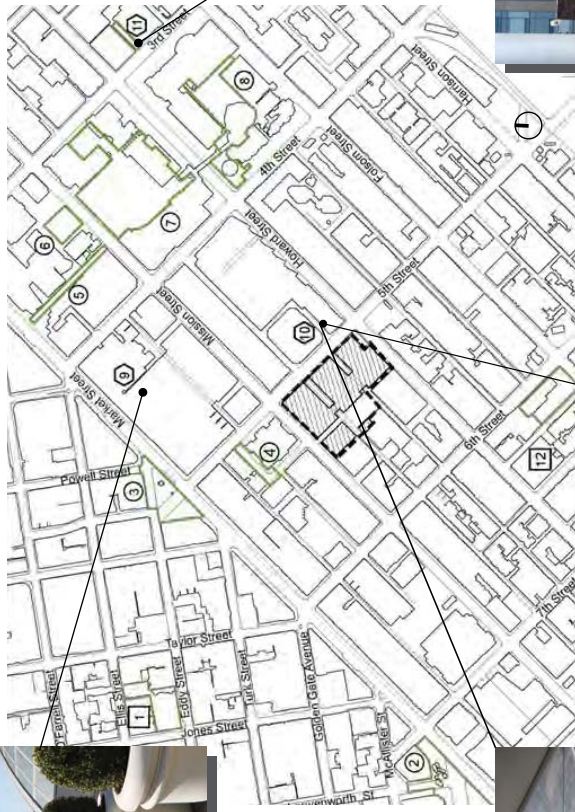


Amphitheater with Play Circle and Ice Rink building beyond

FIGURE IV. G-8



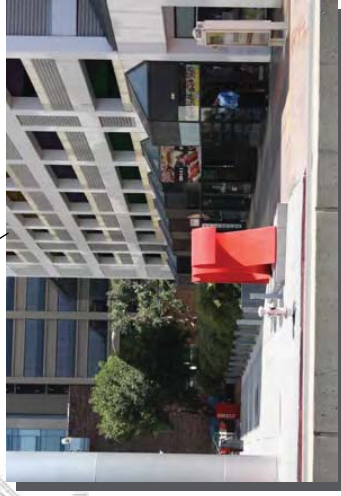
Westin Sky Terrace



Intercontinental Hotel - 4th Floor Pacific Terrace



Intercontinental Hotel - 6th Floor Bay Terrace



Moscone Plaza

Note: See Figure IV.G-1 for legend of open space locations

FIGURE IV.G-9

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Intercontinental Hotel/Pacific Terrace. The Intercontinental Hotel, located on the corner of Fifth and Howard Streets, is less than 100 feet east of the project site. The hotel includes the Pacific and Bay Terrace open spaces that are accessible to the public on the 4th and 6th floors, respectively. The Pacific Terrace, located on the northwest side of the hotel building, is currently covered with a temporary plastic tent. The 6th floor Bay Terrace, also situated on the northwest side of the building, is protected from the wind by glass walls. Metal tables and chairs, as well as several chaise lounges, provide seating on this terrace. The two open spaces can be reached via elevators from the hotel lobby. Posted hours are from 9:00 a.m. to 5:00 p.m. daily.

Moscone Plaza. Located approximately 0.4 mile northeast of the proposed project site, Moscone Plaza is an approximately 275-foot long pedestrian corridor along the Tehama Street right-of-way, connecting Third Street to the west with Kaplan Lane, to the east.

In addition to the open spaces described above, other public open spaces include the streets and sidewalks around the project site.

Regulatory Setting. Three sections of the Planning Code relate to the potential impacts of the proposed project on shadow patterns: Section 295, 146, and 147. These regulations are summarized in this section and are more specifically addressed in Chapter III, Plans and Policies.

In general, Section 295 prohibits the issuance of building permits for structures or additions to structures greater than 40 feet in height that would shade property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission, during the period from 1 hour after sunrise to 1 hour before sunset, unless the Planning Commission, following review and comment by the general manager of the Recreation and Park Department, in consultation with the Recreation and Park Commission, determines that such shade would have an insignificant impact on the use of such property. Boeddeker Park in the vicinity of the project site is under Recreation and Park Department jurisdiction and subject to Section 295. Planning Code Section 146 is intended to protect sun access on sidewalks along certain street segments in the C-3 zoning district. Planning

Code Section 147, applicable to the C-3, RSD, SLR, SLI, and SSO zoning districts, where height limits are greater than 40 feet, requires that all new development and additions to existing structures where the height exceeds 50 feet must be designed to minimize shadow on public plazas or other publicly accessible open spaces other than those protected by Section 295, “in accordance with the guidelines of good design and without unduly restricting the development potential of the property.”

Impacts and Mitigation Measures

Significance Criteria. Implementation of the proposed project would have a significant effect on wind and shadow if it would:

- Alter wind in a manner that substantially affects public areas; or
- Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.

Wind Impacts

Approach to Analysis. Wind tunnel testing was conducted for the proposed project as part of the Pedestrian Wind Study prepared by RWDI. The wind tunnel testing evaluated wind speeds (for both the Office Scheme and Residential Scheme) under existing and existing plus project conditions. A qualitative analysis was conducted for cumulative and cumulative plus projects conditions, as wind tunnel testing was not deemed necessary to understand the project’s potential contribution to cumulative wind conditions, based on past, present, and reasonably foreseeable future projects in the vicinity of the site. “Existing” conditions were considered to include existing on-site buildings and existing and under-construction buildings surrounding the project site. Under-construction buildings were included as part of the existing conditions to ensure that wind patterns, which can be sensitive to changes in urban topography, reflect anticipated short-term changes in the physical environment. “Existing plus project” conditions include existing conditions plus buildings and trees proposed as part of the project, under the Office Scheme and Residential Scheme.

The wind tunnel test employed a 1:400 (1 inch = 33 feet) scale model of the project site and neighborhood surrounding the project site. A total of 78 locations were evaluated at approximately 5 feet above grade within a 1,600-foot radius of the project site, with a focus on winds from the west-southwest, west-northwest, and northwest, as required by the Planning Code. **Figure IV.G-10** shows the wind analysis locations. **Tables IV.G-1 and IV.G-2** show the results of the analysis in relation to the pedestrian comfort and hazard criteria, respectively, for both the Office Scheme and Residential Scheme. The analysis complies with standard methodology for studies in the City, and does not take into account streetscape features beyond trees proposed as part of the project (i.e., it does not take into account furniture, wind screens, and landscaping). Such features, not included in the model, could provide additional wind protection if properly implemented.

Previous Design Revisions. Due to the low- to mid-rise surroundings of the project site, under existing conditions the site is subject to uninterrupted upper-level wind flows from the prevailing wind directions. Preliminary testing of an earlier iteration of the project in January 2013 indicated that proposed buildings would intercept this wind and create a “downwashing” effect whereby proposed building facades would direct stronger upper-level winds to pedestrian areas, potentially exceeding the City’s comfort and hazard criteria. These downwashing effects are evident under existing conditions in the vicinity of the site, most notably at the location of the Intercontinental Hotel, at the northeast quadrant of Fifth and Howard Streets.

As a result of early evidence that the 2013 project had a high potential to generate winds that exceed the City’s comfort and hazard criteria, the project sponsor initiated a series of design changes that involved multiple wind study tests, in order to reduce project effects on wind patterns. After the initial wind tunnel test was conducted in January 2013, additional wind tunnel tests were conducted in May 2013; June 2013; July 2013; and August 2013. In addition, a design workshop and mitigation testing were held at RWDI’s offices in May 2013. Computer simulations of wind patterns at the project site were also conducted in May 2013. From May through August 2013, the project sponsor team revised the massing and design of the project numerous times in order to minimize adverse wind effects.

Approximately 20 discrete design configurations were developed and tested prior to arriving at an acceptable design that would minimize project effects on wind patterns. Changes to the initial design that were employed include: modifications to project massing; adjustments of tower heights; incorporation of tower setbacks, podia, and façade articulations to reduce downwashing; and the addition of canopies and trees in strategic locations to reduce ground-level wind speeds. The final results of this iterative design process are reflected in the Office Scheme and Residential Scheme, which are analyzed in this EIR. Please refer to Chapter V, Alternatives, for a description of project alternatives that were considered but ultimately rejected due to the potential to generate exceedances of the wind hazard criterion.

Impact Evaluation. As discussed below, implementation of the Office Scheme and Residential Scheme would alter wind patterns in the vicinity of the project site, but not in a way that would substantially diminish the use of public areas. The discussion of the project's effects on the City's pedestrian comfort criteria is provided here for informational purposes only, as the threshold used to identify significant impacts is the hazard criterion.

Impact WS-1a: The Office Scheme would not alter wind in a manner that substantially affects public areas within the vicinity of the project site. (Less Than Significant)

Comfort Criterion. As discussed above, this discussion of the Office Scheme's effects on the City's pedestrian comfort criteria is provided here for informational purposes only, as the threshold used to identify significant impacts is the hazard criterion. As shown in **Table IV.G-1**, under existing conditions a total of 31 locations (out of 78 evaluated locations) experience wind speeds that exceed the pedestrian comfort criterion of winds greater than 11 mph more than 10 percent of the time. The Office Scheme would change wind patterns such that four of these exceedances would be eliminated. However, the Office Scheme would create new exceedances of the pedestrian comfort criterion at 32 locations. **Figure IV.G-11** shows pedestrian wind comfort conditions that would occur with implementation of the Office Scheme. **Figure IV.G-12** shows the change in wind comfort conditions that is expected from implementation of the Office Scheme.

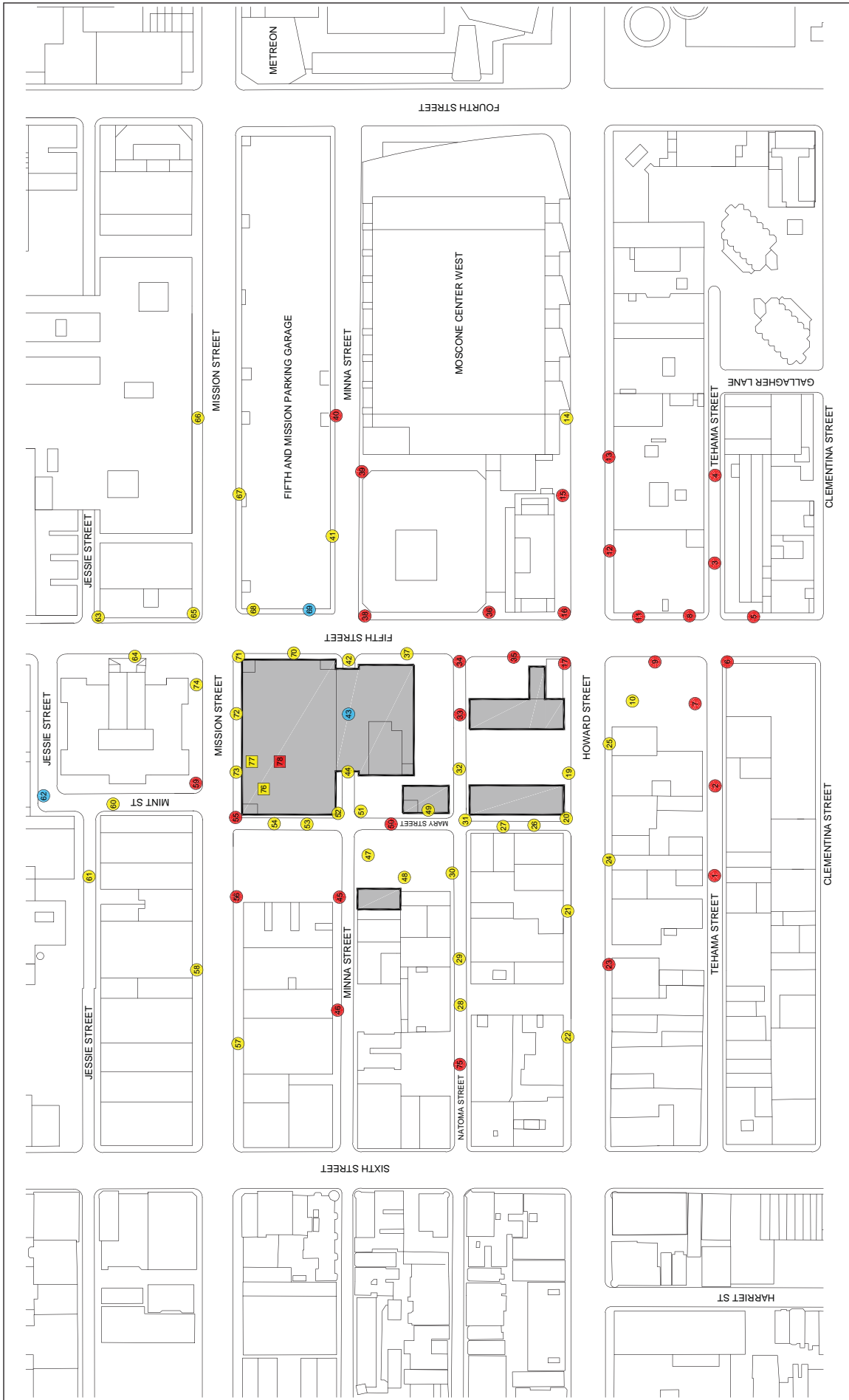
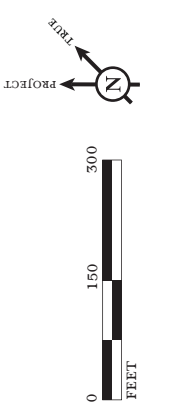
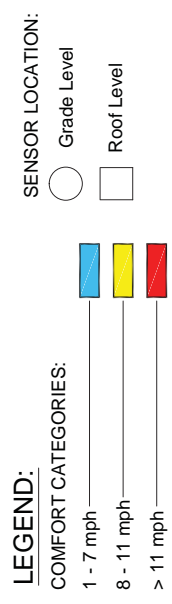


FIGURE IV.G-10



5M Project EIR
Pedestrian Wind Comfort Conditions - Existing
Annual (January to December, 6:00 a.m. to 8:00 p.m.)

SOURCE: RWDI, INC., OCTOBER 10, 2013.

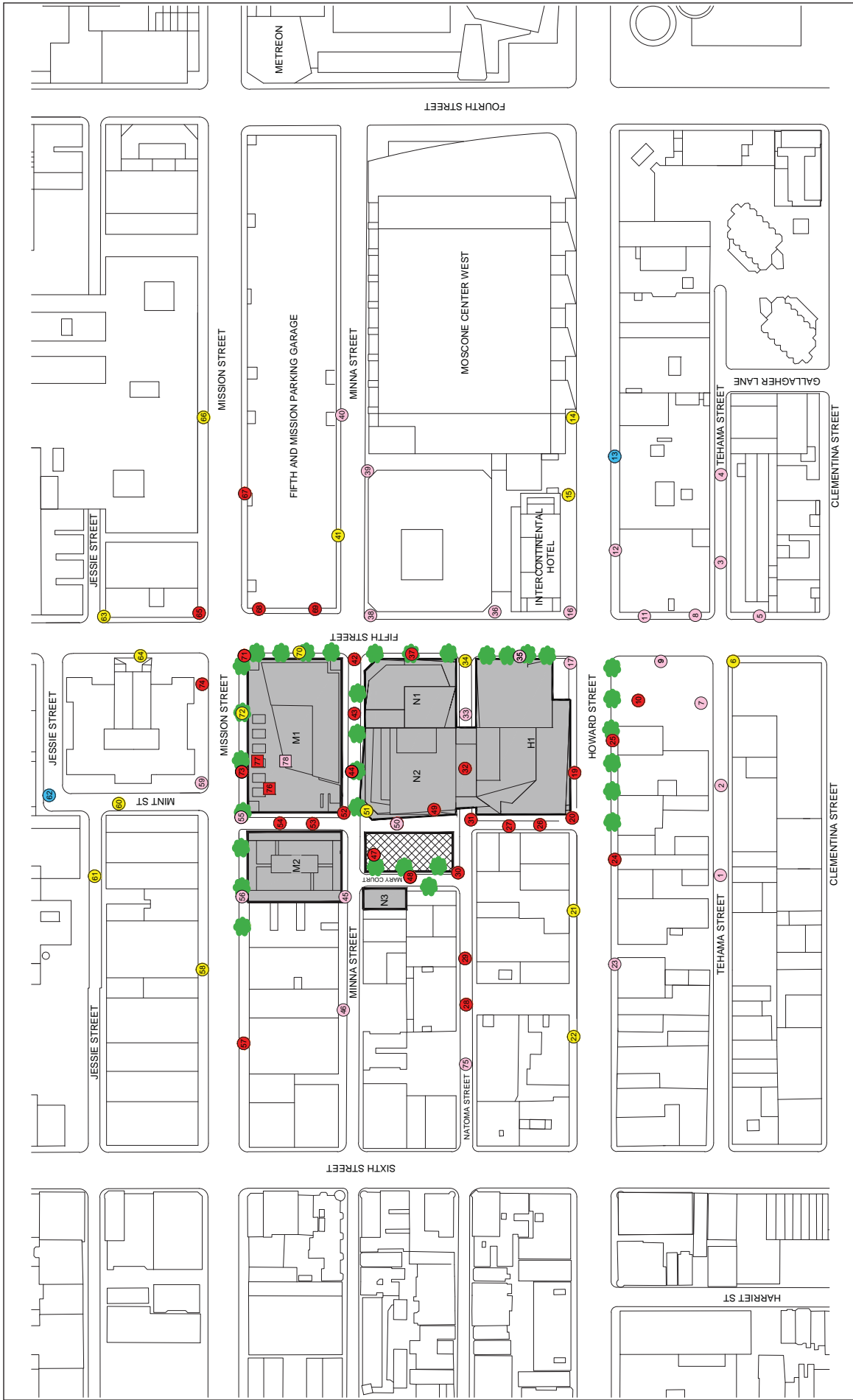


FIGURE IV.G-11
5M Project EIR
 Pedestrian Wind Comfort Conditions -
 Existing Plus Project - Office Scheme
 Annual (January to December,
 6:00 a.m. to 8:00 p.m.)

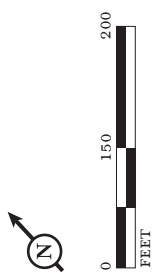
LEGEND:

COMFORT CATEGORIES:

- 1 - 7 mph
- 8 - 11 mph
- > 11 mph (new exceedence)
- > 11 mph (continued exceedence)

SENSOR LOCATION:

- Grade Level
- Roof Level
- Proposed Street Trees



SOURCE: RWDI, INC., OCTOBER 10, 2013.

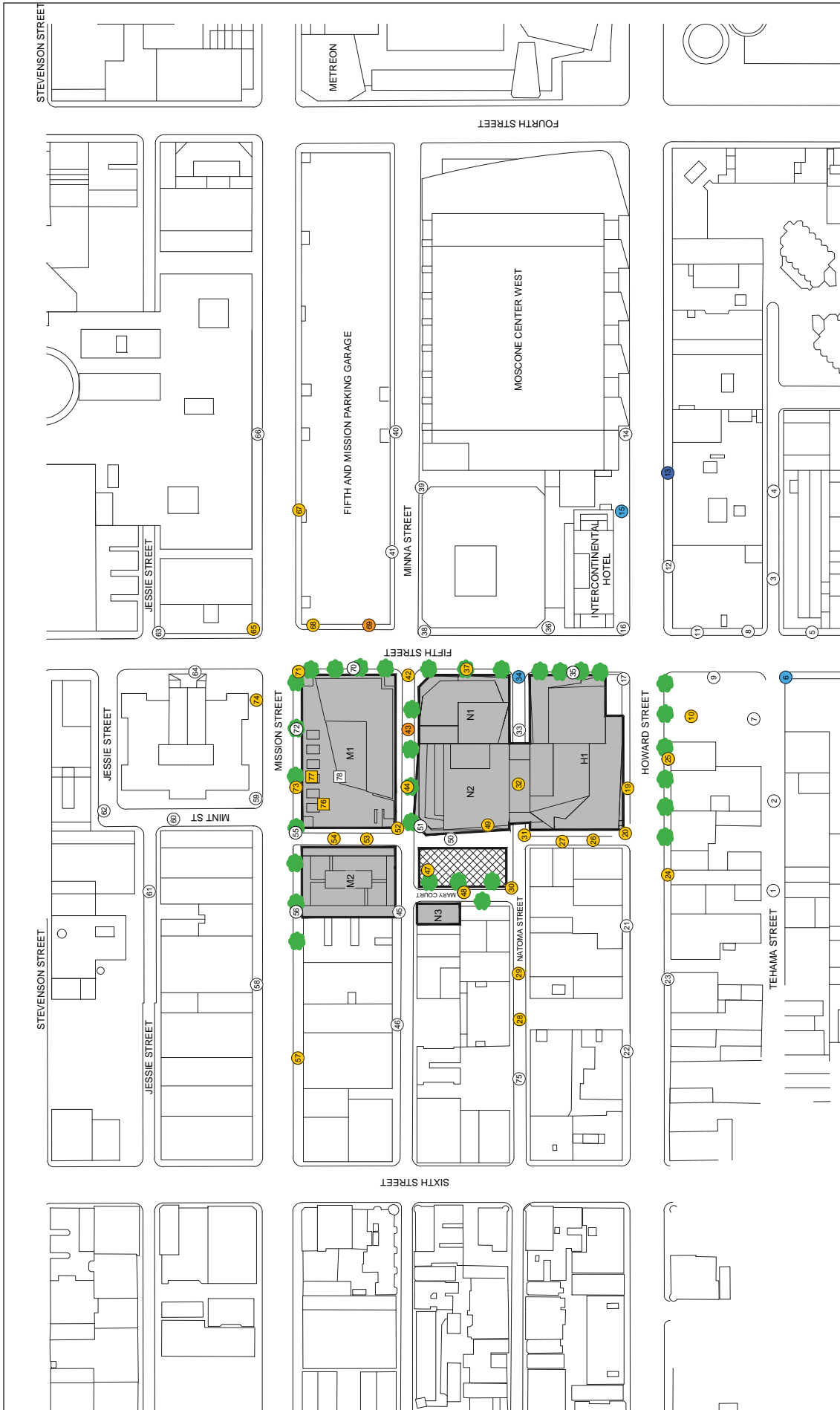


FIGURE IV.G-12

5M Project EIR
 Pedestrian Wind Results Comparison
 Existing Plus Project - Office Scheme

SENSOR LOCATION:

- Grade Level
- Podium Level
- Proposed Street Trees

Note: One Level change indicates change between 1-7 mph and 8-11 mph; Two Levels change indicates a change between 1-7 mph and > 11 mph.

LEGEND:

COMFORT CATEGORY CHANGE:

- Wind Comfort Reduction - Two Levels
- Wind Comfort Reduction - One Level
- No Comfort Category Change
- Wind Comfort Improvement - One Level
- Wind Comfort Improvement - Two Levels



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The locations where new exceedances would be created are clustered primarily in the interior of the site (particularly along Mary Street), but also along the periphery of the site. Exceedances would occur along Mission, Fifth, and Howard Streets in the vicinity of the site. However, these locations are generally used by pedestrians in a transitory fashion, and do not contain permanent seating areas, or other features that characterize locations where pedestrians would remain stationary for longer periods of time.

Under the Office Scheme, the comfort criterion would be exceeded at all tested locations at Mary Court. For instance, at location 47 (Mary Court), wind speeds would exceed the 11 mph criterion approximately 41 percent of the time. Although not applicable to rooftop locations per Planning Code Section 148, three locations on the Chronicle Rooftop (locations 76, 77, and 78), wind speeds would exceed the 11 mph criterion approximately 18 to 27 percent of the time. However, it should be noted that two locations on the Chronicle Rooftop are located between rooftop greenhouses that would be developed as part of the project. Furthermore, the Fifth and Mission SUD requires implementation of appropriate wind baffling measures in these and other locations of substantial pedestrian use and public seating areas, consistent with the D4D. Although the proposed open spaces would be windy at times, these locations remain within the hazard criterion used to determine significant wind impacts, and therefore do not represent adverse changes to wind conditions in existing open spaces, and exceedances of the comfort criteria in and of themselves do not represent a significant impact. Mint Plaza, which contains outdoor seating areas and is used for an area of high pedestrian activity to the north of the project site (which includes extensive outdoor seating areas) would not be subject to new wind exceedances due to implementation of the Office Scheme.

Overall, the Office Scheme would increase the average wind speed at test locations from 12 mph to 14 mph, a modest increase. The highest wind speed (24 mph) would occur along Fifth Street south of Tehama Street (location 5), an increase from 22 mph under existing conditions. The 11 mph comfort criterion would be exceeded 21 percent of the time (compared to 14 percent of the time under existing conditions).

The project would result in a relatively modest worsening of wind comfort conditions. The project D4D document would require the implementation of additional design features to further minimize the impact of wind speeds on pedestrian comfort.

Hazard Criterion. As shown in **Table IV.G-2**, under existing conditions, 75 out of 78 evaluated locations experience wind speeds that are below the pedestrian hazard criterion. Three locations exceed the criterion for a total of 79 hours a year: location 5, on the east side of Fifth Street between Tehama and Clementina Streets; location 12, on the southeast quadrant of Fifth and Howard Streets; and location 16, adjacent to the Intercontinental Hotel on the northeast quadrant of Fifth and Howard Streets. With implementation of the Office Scheme, 76 out of 78 evaluated locations would be below the pedestrian hazard criterion. **Figure IV.G-13** shows existing wind conditions in the vicinity of the project site. **Figure IV.G-14** shows wind conditions expected with implementation of the Office Scheme. Under the Office Scheme, two locations would exceed the hazard criterion for a total of 32 hours a year (a net reduction of 47 hours compared to existing conditions): locations 5 and 12. Thus with implementation of the Office Scheme, the number of locations that would experience exceedances of the hazard criterion and the total number of hours that the wind speed exceeds the hazard criterion would be reduced. The two locations that would continue to exceed the hazard criterion under the Office Scheme (locations 5 and 12) are used by pedestrians, but in a transitory fashion. Pedestrians would not tend to linger in these locations due to the lack of seating or other design elements that encourage resting. Furthermore, the exceedance location that would be eliminated (location 16) is positioned outside a hotel and is subject to associated pedestrian activities. Therefore, the Office Scheme would not result in significant effects related to the wind hazard criterion.

Table IV.G-1: Wind Comfort Conditions

References		Existing			Existing plus Office Scheme				Existing plus Residential Scheme			
Location Number	Comfort Criterion Speed (mph)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Speed Change Relative to Existing (mph)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Speed Change Relative to Existing (mph)	Exceeds
1	11	12	13	e	12	16	0	e	12	16	0	e
2	11	13	20	e	13	19	0	e	13	20	0	e
3	11	15	29	e	20	42	5	e	20	43	5	e
4	11	18	34	e	15	26	-3	e	15	26	-3	e
5	11	20	48	e	24	53	4	e	24	53	4	e
6	11	17	35	e	11	10	-6		10	8	-7	
7	11	14	24	e	18	38	4	e	18	41	4	e
8	11	19	43	e	15	26	-4	e	15	27	-4	e
9	11	16	31	e	16	33	0	e	17	35	1	e
10	11	11	10		15	28	4	e	15	29	4	e
11	11	18	42	e	17	38	-1	e	18	43	0	e
12	11	26	60	e	20	45	-6	e	19	43	-7	e
13	11	20	40	e	7	0	-13		8	1	-12	
14	11	10	8		10	7	0		10	7	0	
15	11	12	18	e	10	6	-2		10	7	-2	
16	11	22	52	e	19	40	-3	e	18	37	-4	e
17	11	16	33	e	13	16	-3	e	13	16	-3	e
18	11	NA	NA		NA	NA	NA		NA	NA	NA	
19	11	11	10		12	15	1	e	10	5	-1	
20	11	8	1		20	45	12	e	21	47	13	e
21	11	8	1		11	10	3		11	10	3	
22	11	10	6		9	2	-1		9	2	-1	
23	11	12	15	e	12	15	0	e	12	14	0	e
24	11	11	10		16	30	5	e	16	30	5	e
25	11	10	8		17	35	7	e	18	38	8	e
26	11	9	2		15	27	6	e	15	27	6	e
27	11	11	10		15	29	4	e	15	26	4	e
28	11	9	3		12	18	3	e	12	17	3	e
29	11	11	10		16	31	5	e	15	26	4	e

Table IV.G-1: Wind Comfort Conditions

References		Existing			Existing plus Office Scheme				Existing plus Residential Scheme			
Location Number	Comfort Criterion Speed (mph)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Speed Change Relative to Existing (mph)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Speed Change Relative to Existing (mph)	Exceeds
30	11	10	4		15	28	5	e	13	20	3	e
31	11	11	10		14	21	3	e	13	18	2	e
32	11	10	7		14	21	4	e	14	21	4	e
33	11	13	19	e	14	22	1	e	14	25	1	e
34	11	14	24	e	9	3	-5		10	5	-4	
35	11	14	25	e	14	25	0	e	14	24	0	e
36	11	13	18	e	12	13	-1	e	11	10	-2	
37	11	10	6		12	17	2	e	11	10	1	
38	11	12	13	e	14	22	2	e	14	21	2	e
39	11	14	25	e	13	21	-1	e	13	20	-1	e
40	11	14	24	e	14	23	0	e	14	22	0	e
41	11	8	3		9	3	1		9	2	1	
42	11	11	10		17	37	6	e	18	40	7	e
43	11	7	1		18	38	11	e	15	28	8	e
44	11	8	2		13	20	5	e	13	20	5	e
45	11	12	13	e	18	38	6	e	18	38	6	e
46	11	14	22	e	15	26	1	e	15	26	1	e
47	11	10	6		18	41	8	e	18	41	8	e
48	11	9	4		13	16	4	e	13	18	4	e
49	11	10	4		13	17	3	e	13	18	3	e
50	11	12	13	e	14	22	2	e	14	22	2	e
51	11	10	7		10	7	0		10	8	0	
52	11	11	10		17	33	6	e	17	35	6	e
53	11	10	6		14	22	4	e	14	21	4	e
54	11	9	3		17	32	8	e	16	31	7	e
55	11	14	21	e	13	18	-1	e	13	18	-1	e
56	11	17	34	e	15	25	-2	e	14	24	-3	e
57	11	11	10		12	12	1	e	12	13	1	e
58	11	11	10		10	5	-1		9	4	-2	

Table IV.G-1: Wind Comfort Conditions

References		Existing			Existing plus Office Scheme				Existing plus Residential Scheme			
Location Number	Comfort Criterion Speed (mph)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Speed Change Relative to Existing (mph)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11 mph	Speed Change Relative to Existing (mph)	Exceeds
59	11	12	16	e	13	18	1	e	13	18	1	e
60	11	9	3		9	3	0		9	3	0	
61	11	8	1		8	1	0		8	1	0	
62	11	7	0		7	0	0		7	0	0	
63	11	9	2		11	10	2		11	10	2	
64	11	10	4		11	10	1		12	12	2	e
65	11	10	5		14	20	4	e	14	21	4	e
66	11	8	1		9	3	1		9	3	1	
67	11	10	5		12	13	2	e	9	4	-1	
68	11	8	1		12	16	4	e	12	15	4	e
69	11	7	0		13	21	6	e	13	20	6	e
70	11	8	3		9	2	1		9	2	1	
71	11	9	4		14	20	5	e	14	20	5	e
72	11	9	4		11	10	2		12	12	3	e
73	11	11	10		16	27	5	e	16	28	5	e
74	11	9	4		12	16	3	e	12	15	3	e
75	11	14	22	e	13	20	-1	e	13	20	-1	e
76	11	11	10		15	24	4	e	15	25	4	e
77	11	11	10		15	27	4	e	16	28	5	e
78	11	12	15	e	13	18	1	e	13	19	1	e
Average mph and %		12 mph	14 %	-	14 mph	21 %	2	-	14 mph	20 %	2	-
Exceedances		31 of 78			59 of 78				57 of 78			

NA = Not applicable

Source: RWDI, 2013. *Pedestrian Wind Study, 5M Project*. October 10.

Table IV.G-2: Wind Hazard Conditions

References	Existing			Existing plus Office Scheme				Existing plus Residential Scheme			
	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
1	21	0		25	0	0		23	0	0	
2	25	0		25	0	0		25	0	0	
3	29	0		35	0	0		35	0	0	
4	35	0		28	0	0		27	0	0	
5	37	1	e	41	26	25	e	41	28	27	e
6	32	0		28	0	0		28	0	0	
7	27	0		32	0	0		33	0	0	
8	34	0		31	0	0		31	0	0	
9	29	0		33	0	0		33	0	0	
10	23	0		28	0	0		28	0	0	
11	33	0		31	0	0		32	0	0	
12	47	74	e	39	6	-68	e	40	7	-67	e
13	34	0		13	0	0		14	0	0	
14	20	0		20	0	0		20	0	0	
15	24	0		18	0	0		18	0	0	
16	40	4	e	36	0	-4		35	0	-4	
17	30	0		26	0	0		25	0	0	
18	NA	NA		NA	NA	NA		NA	NA	NA	
19	21	0		24	0	0		18	0	0	
20	15	0		35	0	0		37	9	9	e
21	14	0		20	0	0		18	0	0	
22	18	0		15	0	0		15	0	0	
23	22	0		22	0	0		21	0	0	
24	21	0		28	0	0		28	0	0	
25	20	0		30	0	0		33	0	0	
26	16	0		26	0	0		27	0	0	
27	20	0		28	0	0		25	0	0	
28	16	0		22	0	0		21	0	0	
29	21	0		28	0	0		25	0	0	

Table IV.G-2: Wind Hazard Conditions

References	Existing			Existing plus Office Scheme				Existing plus Residential Scheme			
	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
30	18	0		28	0	0		23	0	0	
31	18	0		24	0	0		23	0	0	
32	19	0		26	0	0		26	0	0	
33	23	0		26	0	0		27	0	0	
34	26	0		18	0	0		19	0	0	
35	26	0		27	0	0		27	0	0	
36	23	0		21	0	0		21	0	0	
37	20	0		26	0	0		23	0	0	
38	27	0		25	0	0		24	0	0	
39	26	0		26	0	0		24	0	0	
40	25	0		27	0	0		26	0	0	
41	21	0		18	0	0		17	0	0	
42	21	0		31	0	0		32	0	0	
43	15	0		31	0	0		28	0	0	
44	16	0		23	0	0		23	0	0	
45	22	0		30	0	0		31	0	0	
46	25	0		26	0	0		25	0	0	
47	17	0		35	0	0		33	0	0	
48	16	0		23	0	0		23	0	0	
49	17	0		23	0	0		23	0	0	
50	21	0		26	0	0		25	0	0	
51	18	0		24	0	0		24	0	0	
52	21	0		30	0	0		30	0	0	
53	20	0		24	0	0		25	0	0	
54	17	0		29	0	0		30	0	0	
55	25	0		23	0	0		23	0	0	
56	30	0		27	0	0		27	0	0	
57	21	0		24	0	0		24	0	0	
58	19	0		17	0	0		17	0	0	

Table IV.G-2: Wind Hazard Conditions

References	Existing			Existing plus Office Scheme				Existing plus Residential Scheme			
Location Number	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1 hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
59	22	0		22	0	0		22	0	0	
60	16	0		17	0	0		17	0	0	
61	15	0		15	0	0		15	0	0	
62	13	0		13	0	0		14	0	0	
63	16	0		19	0	0		19	0	0	
64	18	0		20	0	0		20	0	0	
65	18	0		24	0	0		24	0	0	
66	15	0		16	0	0		16	0	0	
67	17	0		21	0	0		18	0	0	
68	14	0		22	0	0		21	0	0	
69	13	0		24	0	0		23	0	0	
70	20	0		16	0	0		16	0	0	
71	17	0		24	0	0		23	0	0	
72	19	0		20	0	0		20	0	0	
73	20	0		26	0	0		27	0	0	
74	18	0		23	0	0		22	0	0	
75	27	0		25	0	0		26	0	0	
76	22	0		28	0	0		30	0	0	
77	23	0		27	0	0		28	0	0	
78	25	0		23	0	0		24	0	0	
Average mph and hours per year	22 mph	1	-	25 mph	0	-1	-	25 mph	1	0	-
Total Hours of Exceedance	79 hours			32 hours				44 hours			
Exceedances	3 of 78			2 of 78				3 of 78			

Source: RWDI, 2013. *Pedestrian Wind Study, 5M Project*. October 10.

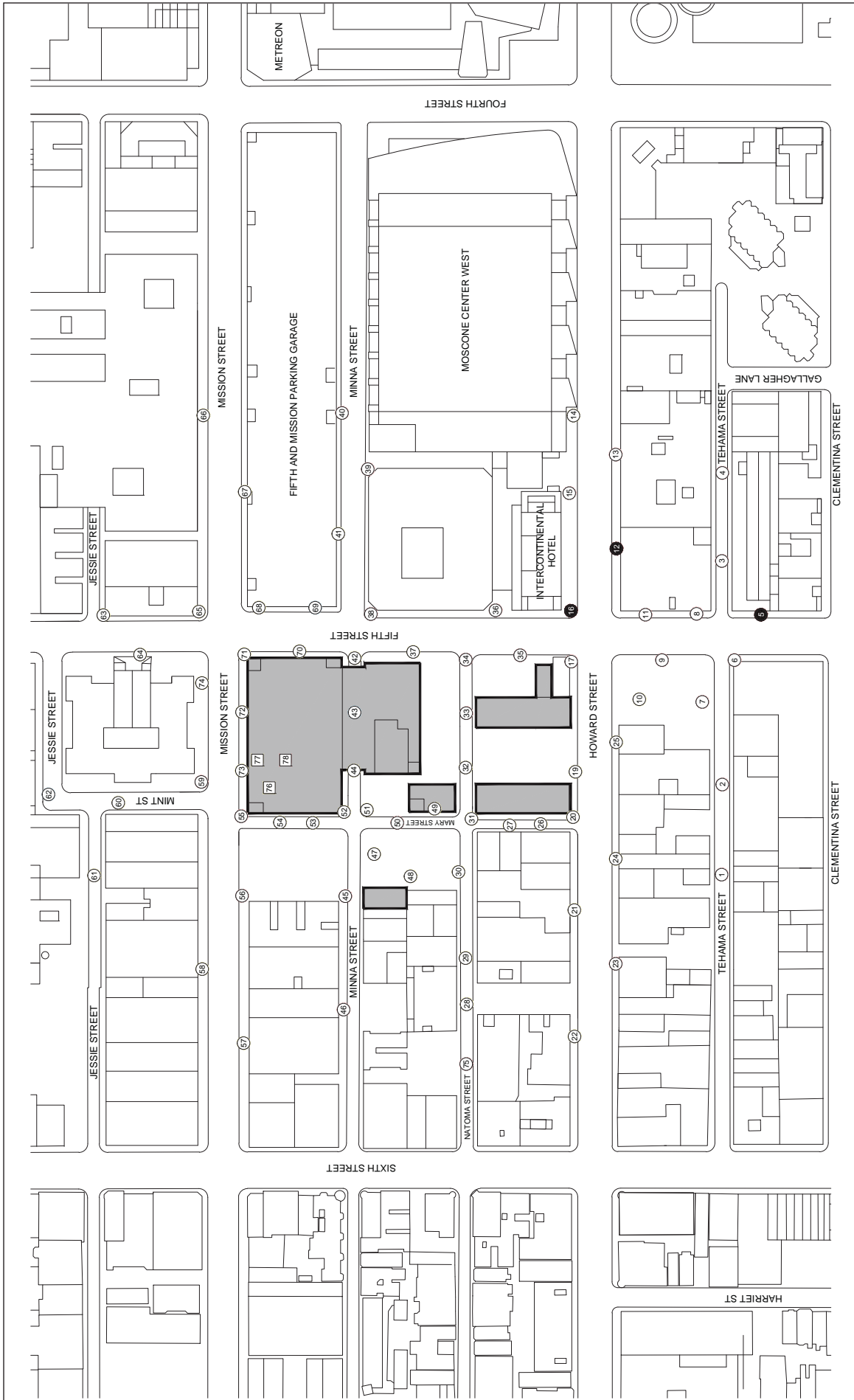






FIGURE IV.G-13


LEGEND:

SAFETY CATEGORIES:

Pass  Exceeded 

SENSOR LOCATION:

Grade Level  Roof Level 

 N

0 150 200
FEET

5M Project EIR
Wind Hazards Results - Existing
Annual (January to December, 6:00 a.m. to 8:00 p.m.)



FIGURE IV.G-14

5M Project EIR
 Wind Hazards Results -
 Existing Plus Project-Office Scheme
 Annual (January to December, 6:00 a.m. to 8:00 p.m.)

LEGEND:

SAFETY CATEGORIES:

Pass

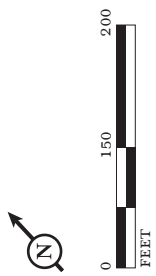
Exceeded

SENSOR LOCATION:

Grade Level

Roof Level

Proposed Street Trees



SOURCE: RWDI, INC., OCTOBER 10, 2013.

Impact WS-1b: The Residential Scheme would not alter wind in a manner that substantially affects public areas within the vicinity of the project site (Less Than Significant)

Comfort Criterion. As described above, this discussion of the Residential Scheme's effects on the City's pedestrian comfort criteria is provided here for informational purposes only, as the threshold used to identify significant impacts is the hazard criterion. The Residential Scheme would result in fewer exceedances of the wind comfort criterion compared to the Office Scheme. As shown in **Table IV.G-1**, the Residential Scheme would eliminate five of the 31 existing exceedances of the comfort criterion and would create 31 new exceedances. **Figure IV.G-15** shows pedestrian wind comfort conditions that would occur with implementation of the Residential Scheme. **Figure IV.G-16** shows the change in wind comfort conditions that is expected from implementation of the Residential Scheme. As noted above, increases in the number of exceedances of the pedestrian comfort criterion would not result in a significant impact, as the hazard criterion is the metric used to ascertain significant wind-related impacts.

The locations where new exceedances would be created have a distribution pattern similar to that of the Office Scheme – primarily in the interior of the site but also along the periphery of the site. In addition, exceedances would occur along Mission, Fifth, Howard, and Natoma Streets in the vicinity of the site. Unlike the Office Scheme, the Residential Scheme would generate a new exceedance of the comfort criterion at the east-facing stairs of the Old U.S. Mint Building, which are used informally as a seating area. At this location, winds exceeding 11 mph would occur 12 percent of the time (compared to 4 percent of the time under existing conditions). Although this change in wind conditions would make the stairs of the Old U.S. Mint Building less comfortable for pedestrians, this impact would not be considered significant, as it would not violate the wind hazard criterion, and thus would not substantially compromise the use or enjoyment of the Old U.S. Mint Building stairs as an informal seating area. Other locations at which the Residential Scheme would generate new exceedances of the comfort criterion would be similar or identical to those associated with the Office Scheme.

Overall, the Residential Scheme would increase the average wind speed at test locations from 12 mph to 14 mph, a modest increase. The highest wind speed (24 mph) would occur along Fifth Street south of Tehama

Street (location 5), an increase from 22 mph under existing conditions. The 11 mph comfort criterion would be exceeded 20 percent of the time (compared to 14 percent of the time under existing conditions). The significance criteria for wind relates to exceedance of hazard criteria, and not comfort criteria, and accordingly exceedance of the comfort criteria under the Residential Scheme would not result in a significant impact, similar to the Office Scheme. As with the Office Scheme, the Fifth and Mission SUD would require, as appropriate, wind baffling measures consistent with the D4D in areas of substantial pedestrian use public seating areas on the project site.

In addition, similar to the Office Scheme, the comfort criterion under the Residential Scheme would be exceeded at all tested locations at Mary Court and at the Chronicle Rooftop. For the reasons described under Impact WS-1a, these exceedances would not be considered significant.

Hazard Criterion. As shown in **Table IV.G-2**, under existing conditions, 75 out of 78 evaluated locations experience wind speeds that are below the pedestrian hazard criterion. Three locations exceed the criterion for a total of 79 hours a year: location 5, on the east side of Fifth Street between Tehama and Clementina Streets; location 12, on the southeast quadrant of Fifth and Howard Streets; and location 16, adjacent to the Intercontinental Hotel on the northeast quadrant of Fifth and Howard Streets. With implementation of the Residential Scheme, 75 out of 78 evaluated locations would meet the pedestrian hazard criterion. One exceedance at location 16 would be eliminated and one new exceedance at location 20 (the northeast quadrant of Howard and Mary Streets) would occur. The exceedance that would be created under project conditions would share similar characteristics to the exceedance that would be eliminated under project conditions. The project exceedance (location 16) is located about 200 feet west along Howard Street from the existing exceedance that would be eliminated (location 20). Wind speeds at either point would be similar (about 36 mph) and in the case of the project exceedance, these wind effects would occur at a mid-block, sidewalk location that does not otherwise accommodate any seating or other recreation areas. **Figure IV.G-13** shows existing wind conditions in the vicinity of the project site. **Figure IV.G-17** shows wind conditions expected with implementation of the Residential Scheme. Under the Residential Scheme, three locations would exceed the hazard criterion for a total of 44 hours a year (a net reduction of 35 hours compared to existing conditions):

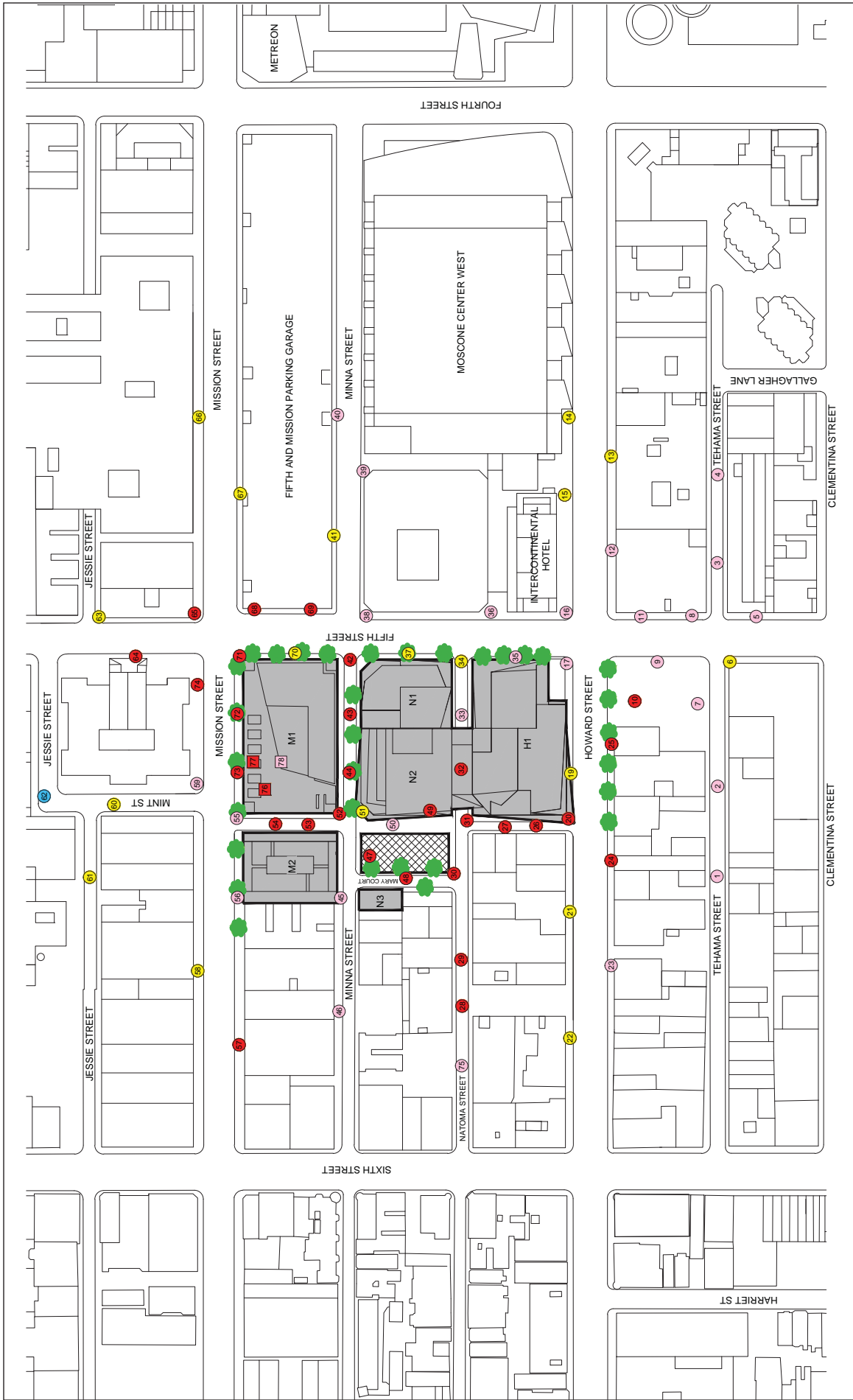


FIGURE IV.G-15

5M Project EIR
 Pedestrian Wind Comfort Conditions -
 Existing Plus Project-Residential Scheme
 Annual (January to December, 6:00 a.m. to 8:00 p.m.)

LEGEND:

COMFORT CATEGORIES:

- 1 - 7 mph
- 8 - 11 mph
- > 11 mph (new exceedence)
- > 11 mph (continued exceedence)

SENSOR LOCATION:

- Grade Level
- Roof Level
- Proposed Street Trees

0 150 200
 FEET

↑ N

SOURCE: RWDI, INC., OCTOBER 10, 2013.

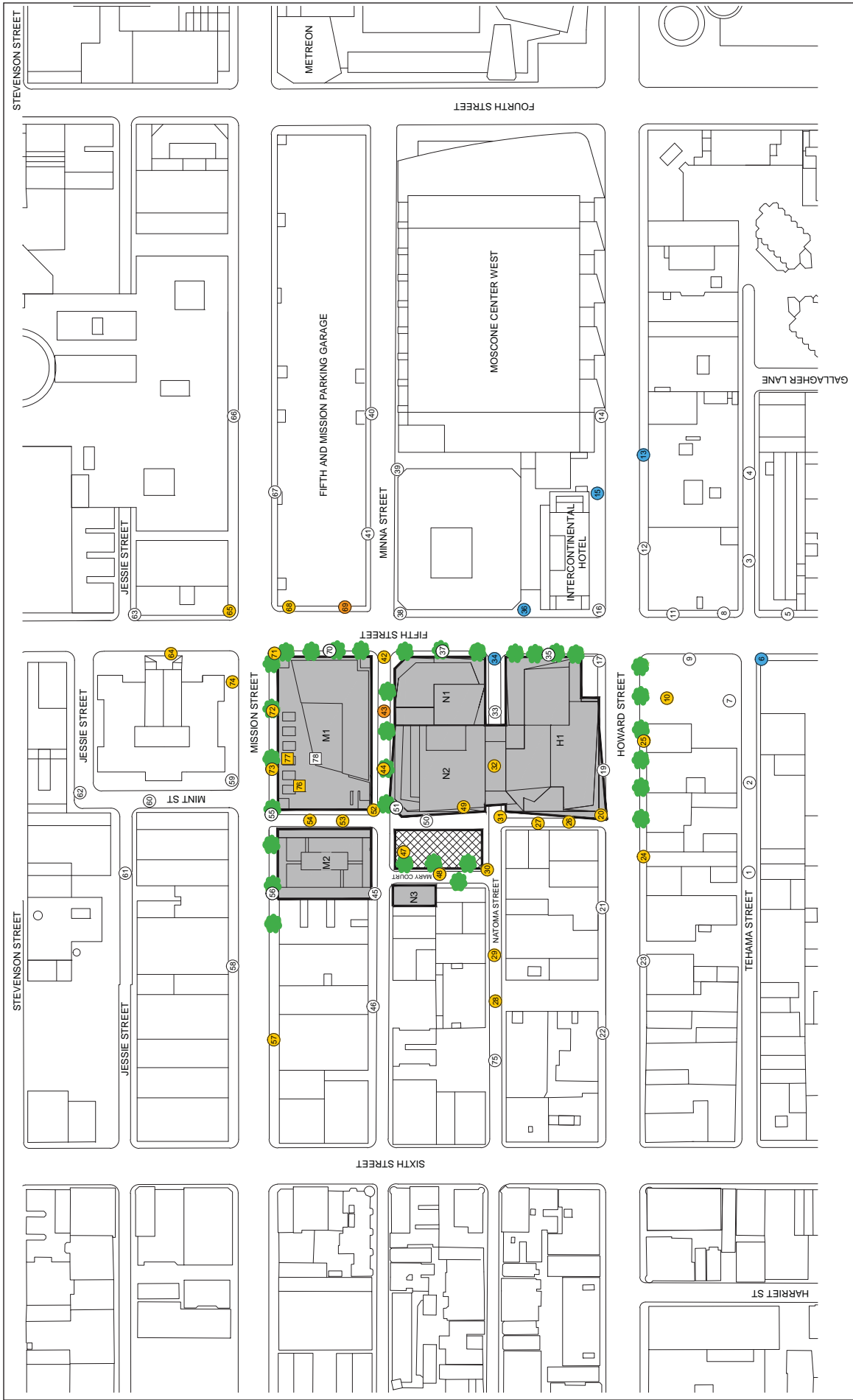


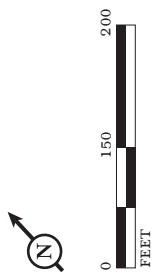
FIGURE IV.G-16

5M Project EIR
 Pedestrian Wind Results Comparison
 Existing Plus Project - Residential Scheme

SENSOR LOCATION:
 ○ Grade Level
 □ Podium Level
 🌳 Proposed Street Trees

COMFORT CATEGORY CHANGE:
 Wind Comfort Reduction - Two Levels
 Wind Comfort Reduction - One Level
 No Comfort Category Change
 Wind Comfort Improvement - One Level
 Wind Comfort Improvement - Two Levels

Note: One Level change indicates change between 1-7 mph and 8-11 mph;
 Two Levels change indicates a change between 1-7 mph and > 11 mph.



SOURCE: RWDI, INC., OCTOBER 10, 2013.



FIGURE IV.G-17

5M Project EIR
 Wind Hazards Results -
 Existing Plus Project-Residential Scheme
 Annual (January to December, 6:00 a.m. to 8:00 p.m.)

LEGEND:

SAFETY CATEGORIES:
 Pass Exceeded

SENSOR LOCATION:
 Grade Level Roof Level Proposed Street Trees

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locations 5, 12, and 20. Thus with implementation of the Residential Scheme, the number of locations that would experience exceedances of the hazard criterion would remain the same and the total number of hours that the wind speed exceeds the hazard criterion would be reduced. The three locations that would exceed the hazard criterion under the Residential Scheme (locations 5, 12, and 20) are used by pedestrians, but in a transitory fashion.

Pedestrians would not tend to linger in these locations due to the lack of seating or other design elements that encourage resting. Furthermore, the exceedance location that would be eliminated (location 16) is positioned outside a hotel and is subject to associated pedestrian activities. Therefore, the Residential Scheme would not result in significant effects related to the wind hazard criterion.

Shadow Impacts

Approach to Analysis. As a preliminary study, the Planning Department prepared a “shadow fan” diagram to determine whether any properties under the jurisdiction of the Recreation and Park Commission could be potentially affected by project shadow. The shadow fan diagram, which was prepared for the January 2013 iteration of the project with different building massing than the current project (plus a 10 percent increase in building height), plots the maximum potential reach of project shadow over the course of a year, from one hour after sunrise until one hour before sunset on each day of the year. The locations of nearby parks and open space facilities are also identified.

The shadow fan diagram, which does not take into account shadows cast by existing buildings, indicates that Boeddeker Park is the only property under the jurisdiction of the Recreation and Park Commission that could be affected by the proposed project. However, the initial analysis also noted that the U.N. Plaza, Hallidie Plaza, Mint Plaza, Yerba Buena Lane, Jessie Square, Yerba Buena

Gardens, and POPOS in the area could also be affected by project-related shadow (but Gene Friend Recreation Center would not be affected by project-related shadow).⁴

Using a 3D model of the project, shadow analysis was prepared that included the following components:

- Identification of the physical and operational characteristics of the open space facilities listed above, and preparation of illustrative diagrams. A map showing these open space facilities is included as **Figure IV.G-1**. The site layout, uses, and photographs of these facilities are depicted in **Figures IV.G-2 through IV.G-9**, as appropriate.
- Preparation of shadow diagrams depicting existing and net new shadow created by the project on the open space facilities surrounding the project site for the following dates: June 21 (the summer solstice, when the sun is at its highest point in the sky); December 20 (the winter solstice, when the sun is at its lowest point in the sky); and September 2 (the fall equinox, when day and night are of approximately equal length; shadows on this day also approximate shadows on March 20, the spring equinox). Diagrams were prepared on an hourly basis, beginning 1 hour after sunrise and ending 1 hour before sunset. Diagrams showing the project's contribution to cumulative shadow conditions were also prepared.
- Preparation of open space-specific shadow diagrams, for the dates/times listed above, for the following open spaces: Boeddeker Park, Yerba Buena Gardens (including Yerba Buena Gardens North and Yerba Buena Children's Play Area); U.N. Plaza; Jessie Square; and Mint Plaza. Each shadow diagram illustrates key use and physical features of the depicted open space. Diagrams showing the project's contribution to cumulative shadow conditions at each of these open spaces were also prepared. In addition, diagrams illustrating worst case shadow conditions were prepared for several key open spaces facilities.
- For Yerba Buena Gardens and Boeddeker Park, identification of: 1) the theoretical annual available sunlight in square foot hours; 2) the amount of existing shadow in square foot

⁴ San Francisco Planning Department, *Shadow Analysis – 5M*, July 4, 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

hours; and 3) the amount of net new shadow that would be generated by the project in square foot hours.

Existing shadow patterns and shadow patterns associated with the proposed project are shown in **Figures IV.G-18 through IV.G-26**. These diagrams provide representative snapshots of shadow patterns at the times of the day and seasons selected for the analysis. No shadow patterns were developed for the Residential Scheme, as the Office Scheme comprises the largest building footprints and would thus generate worst case shadow impacts. In other words, shadows cast by the Residential Scheme would not exceed those generated by the Office Scheme.

The proposed project is not located on any of the street segments identified in Section 146 of the Planning Code. The proposed project could cast new shadow on sidewalks in the vicinity of the project site, but new shadow coverage would be generally transitory in nature and would not substantially affect the function of sidewalks (which – in the vicinity of the site – are used primarily as pedestrian walkways and not as places for extended periods of stationary activity). Therefore, the proposed project would not conflict with Section 146.

Impact WS-2a: The Office Scheme would create new shadow that would not adversely affect outdoor recreation facilities or other public areas within the project site vicinity. (Less Than Significant)

The following discussion describes the potential shadow that would be created by the Office Scheme on open spaces under the jurisdiction of the Recreation and Park Commission, other public open spaces, and POPOS. Gene Friend Recreation Center is a property under the jurisdiction of the Recreation and Park Commission that is in the vicinity of the project site. However, early analysis by the Planning Department indicated the facility would not be affected by project shadow. Therefore, no further analysis of Gene Friend Recreation Center was conducted.

Open Space Under the Jurisdiction of the Recreation and Park Commission (Boeddeker Park). Under existing conditions, Boeddeker Park is shaded about 41.59 percent of the time. (Shadow cast under

existing conditions and project conditions was calculated in the quantitative study conducted, consistent with the protocols Section 295 analysis.) The Office Scheme would shade Boeddeker Park only in the early morning hours during the winter months, generally between October 25 and November 29, as well as between January 11 and February 15, when the sun is at a low angle and extensive shadows are cast by buildings in and around Downtown San Francisco. The Office Scheme would not cast shadow during other times of the year, including the spring, summer, and fall. On the worst-case shadow days, November 8 and February 1, a maximum of 742 square feet of new shadow would be cast only before 8:15 a.m. in and around the northern entry gate to the park. Implementation of the proposed project would result in a very small (about 0.004 percent) increase in shadow cast on Boeddeker Park. The net new shadow that would fall on Boeddeker Park would cover part of the entry gate area of the park. This entry gate area does not contain tables or chairs, and is not expected to be subject to stationary use. Because the net new shadow generated by the Office Scheme would cover an area of the park that would be used primarily for entering and existing the park, and because the net new shadow would occur during the early morning hours during a time of year when park use tends to diminish, the shadow would not adversely affect the use of Boeddeker Park.

Other Public Open Space Areas. Potential effects of the Office Scheme on the shadow coverage of other public open spaces in the vicinity of the site are described below.

U.N. Plaza. The U.N Plaza, which remains sunny for much of the year, including morning and afternoon hours during the winter, would not be affected by project-related shadow.

Hallidie Plaza. Hallidie Plaza, because it is partially subterranean, narrow in dimension, and surrounded by tall buildings, is shaded throughout much of the year, particularly in the morning and late afternoon hours. The proposed Office Scheme would shade Hallidie Plaza between approximately 9:00 a.m. and 10:00 a.m. around the Winter Solstice. However, none of the shadow cast by the Office Scheme would be net new shadow. Therefore, the proposed Office Scheme would not adversely affect the use of Hallidie Plaza.

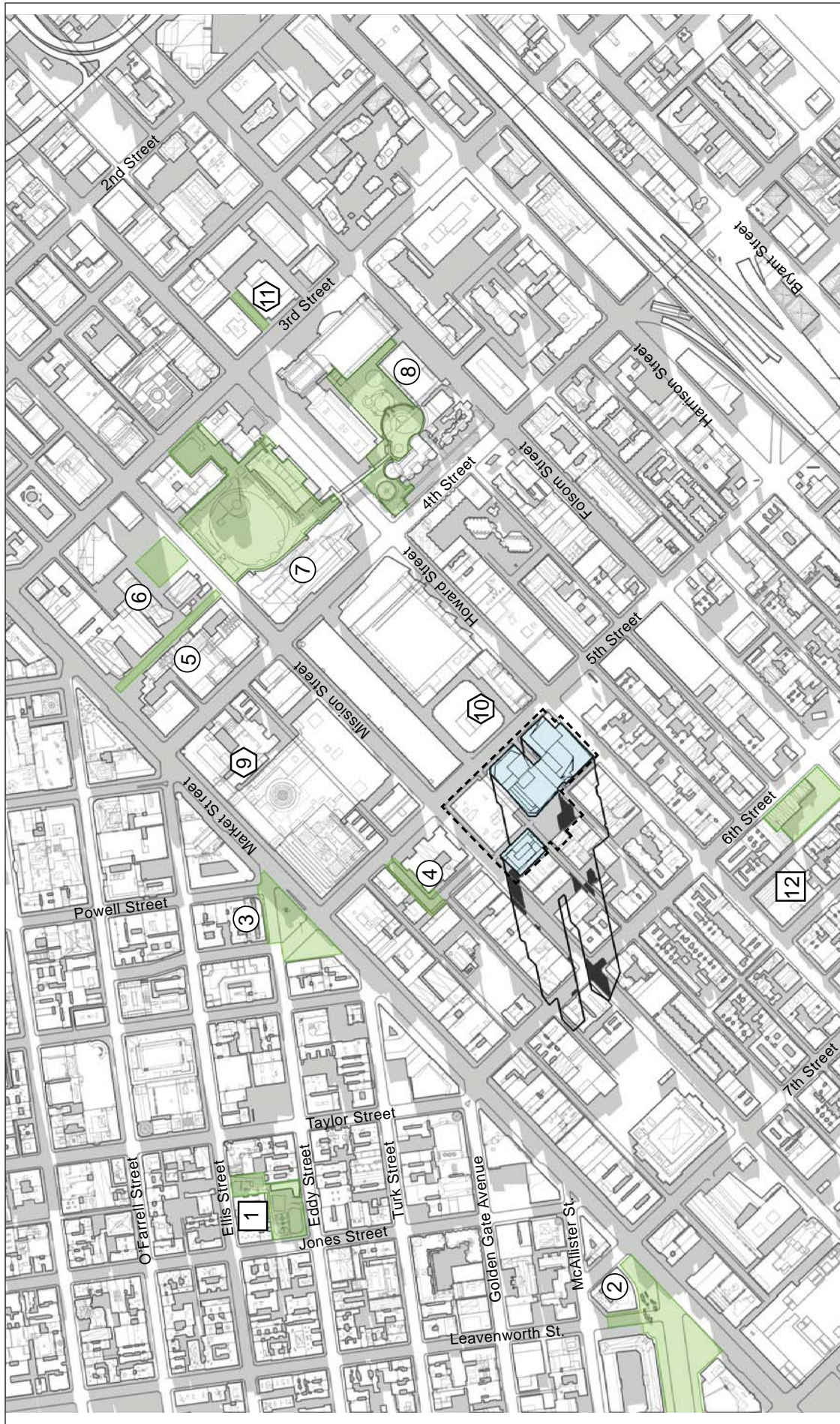









FIGURE IV.G-18

- Privately Owned Public Open Spaces (POPOs)**
 - ⑨ Westfield Sky Terrace
 - ⑩ Intercontinental Hotel/Pacific Terrace
 - ⑪ Moscone Plaza
- Other Public Open Spaces**
 - ② U.N. Plaza
 - ③ Hallidie Plaza
 - ④ Mint Plaza
 - ⑤ Yerba Buena Lane
 - ⑥ Jessie Square
 - ⑦ Yerba Buena Gardens North
 - ⑧ Yerba Buena Children's Play Area
- Recreation and Park Commission Properties**
 - ① Boeddeker Park
 - ⑫ Gene Friend Recreation Center

 Open Space Boundary
 New Project
 Net New Project Shadow
 Project Site
 Existing Shadow

 TRUE
 0 200 400 FEET

5M Project EIR
 Project Shadow Pattern -
 June 21, 8:00 a.m.

SOURCE: ENVIRONMENTAL VISION, 10/6/14

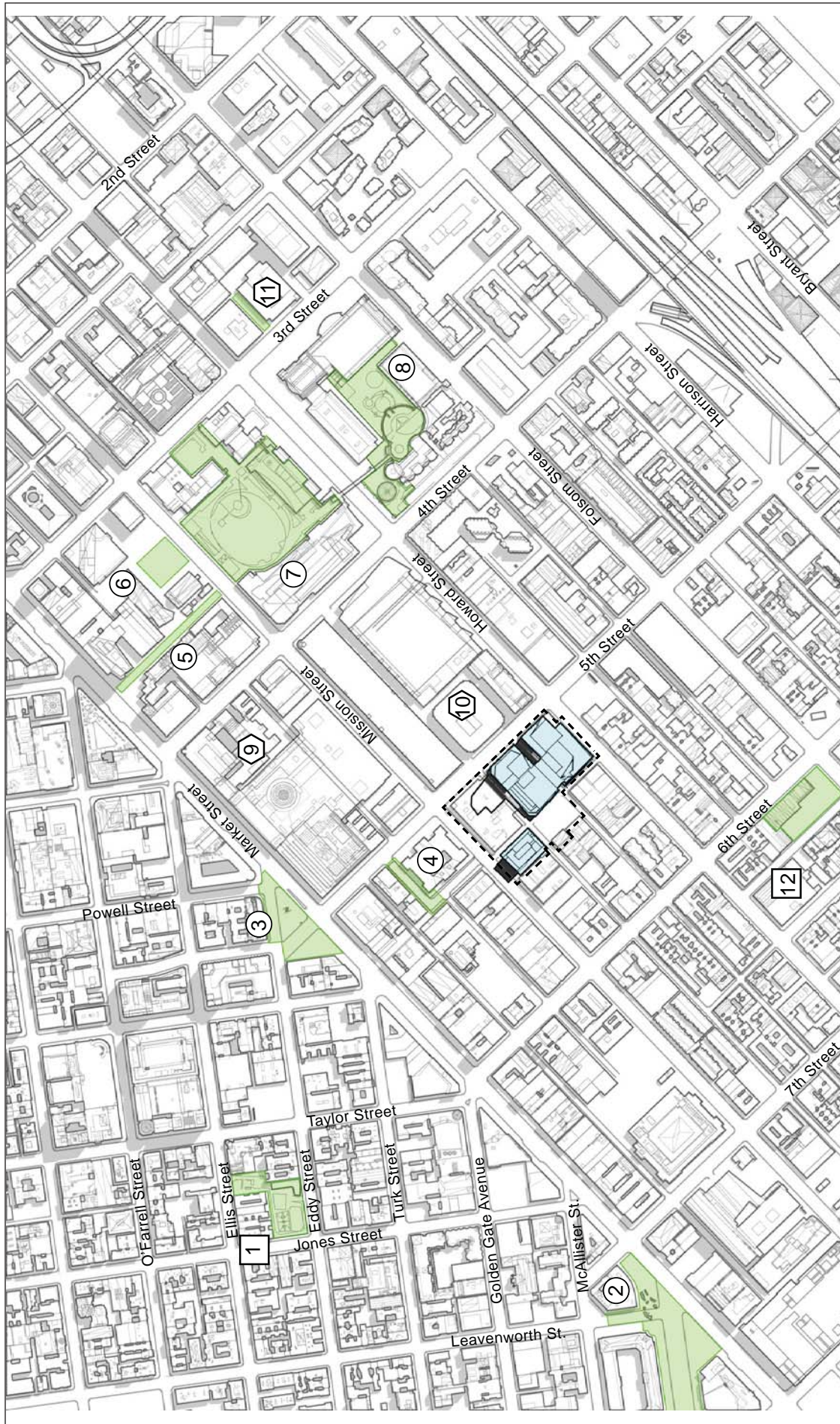


FIGURE IV.G-19

Project Site Existing Shadow Net New Project Shadow	Open Space Boundary New Project	Recreation and Park Commission Properties Boeddeker Park Gene Friend Recreation Center	Other Public Open Spaces U.N. Plaza Hallidie Plaza Mint Plaza Yerba Buena Lane Jessie Square Yerba Buena Gardens North Yerba Buena Children's Play Area	Privately Owned Public Open Spaces (POPOs) Westfield Sky Terrace Intercontinental Hotel/Pacific Terrace Moscone Plaza
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5M Project EIR
 Project Shadow Pattern -
 June 21, 12:00 p.m.

SOURCE: ENVIRONMENTAL VISION, 10/6/14



FIGURE IV.G-20

Project Site New Project Existing Shadow Open Space Boundary TRUE 0 200 400 FEET	Recreation and Park Commission Properties 1 Boeddeker Park Gene Friend Recreation Center 12	Other Public Open Spaces 2 U.N. Plaza 3 Hallidie Plaza 4 Mint Plaza 5 Yerba Buena Lane 6 Jessie Square 7 Yerba Buena Gardens North 8 Yerba Buena Children's Play Area	Privately Owned Public Open Spaces (POPOs) 9 Westfield Sky Terrace 10 Intercontinental Hotel/Pacific Terrace 11 Moscone Plaza
---	---	---	---

5M Project EIR
 Project Shadow Pattern -
 June 21, 4:00 p.m.

SOURCE: ENVIRONMENTAL VISION, 10/6/14

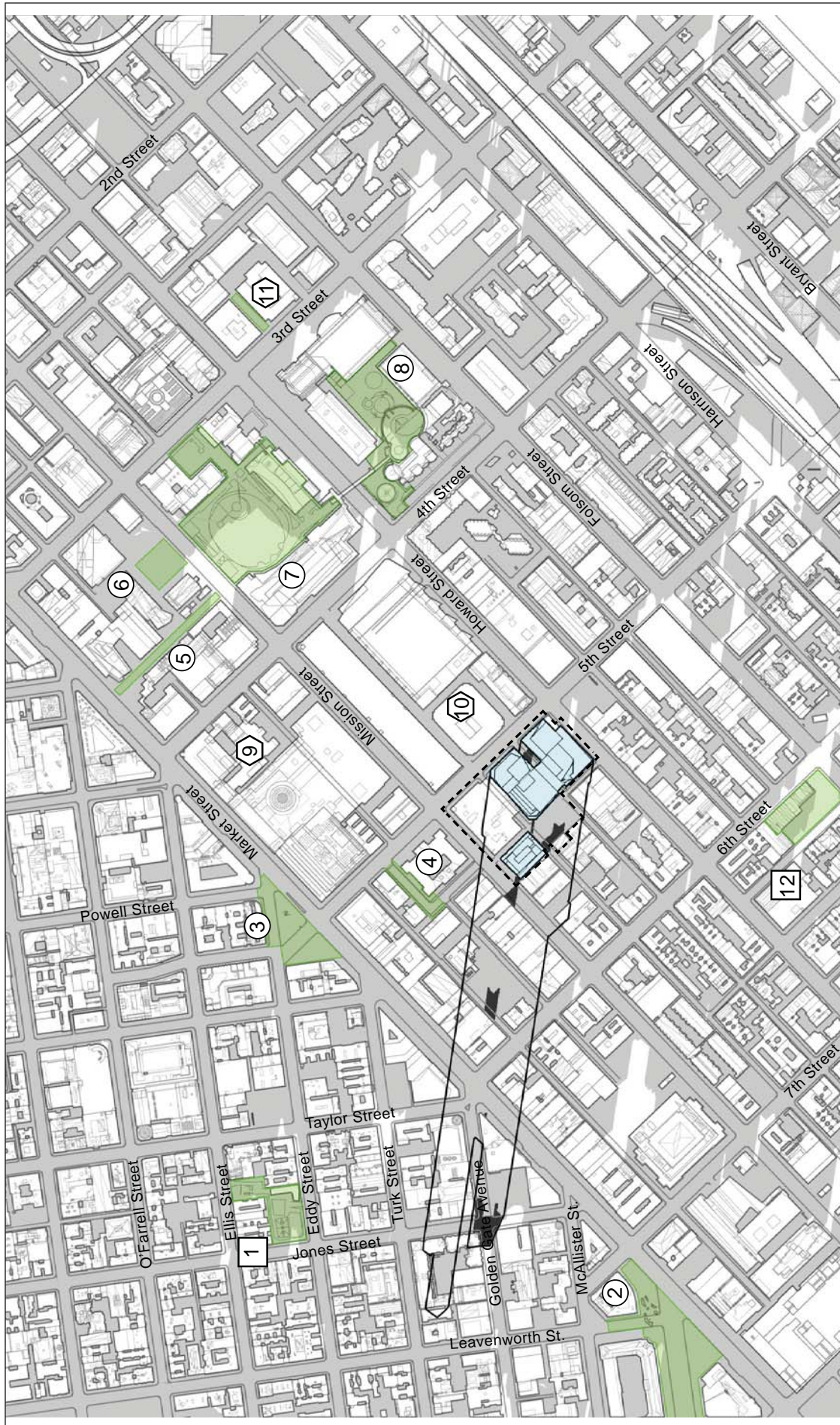


FIGURE IV.G-21

Recreation and Park Commission Properties

- 1 Boeddeker Park
- 12 Gene Friend Recreation Center

Other Public Open Spaces

- 2 U.N. Plaza
- 3 Hallidie Plaza
- 4 Mint Plaza
- 5 Yerba Buena Lane
- 6 Jessie Square
- 7 Yerba Buena Gardens North
- 8 Yerba Buena Children's Play Area

Privately Owned Public Open Spaces (POPOs)

- 9 Westfield Sky Terrace
- 10 Intercontinental Hotel/Pacific Terrace
- 11 Moscone Plaza

Legend:

- Open Space Boundary
- New Project
- Project Site
- Existing Shadow
- Net New Project Shadow

Scale: 0, 200, 400 FEET

Orientation: TRUE, PROJECT

5M Project EIR
 Project Shadow Pattern -
 September 20, 8:00 a.m.

SOURCE: ENVIRONMENTAL VISION, 10/6/14

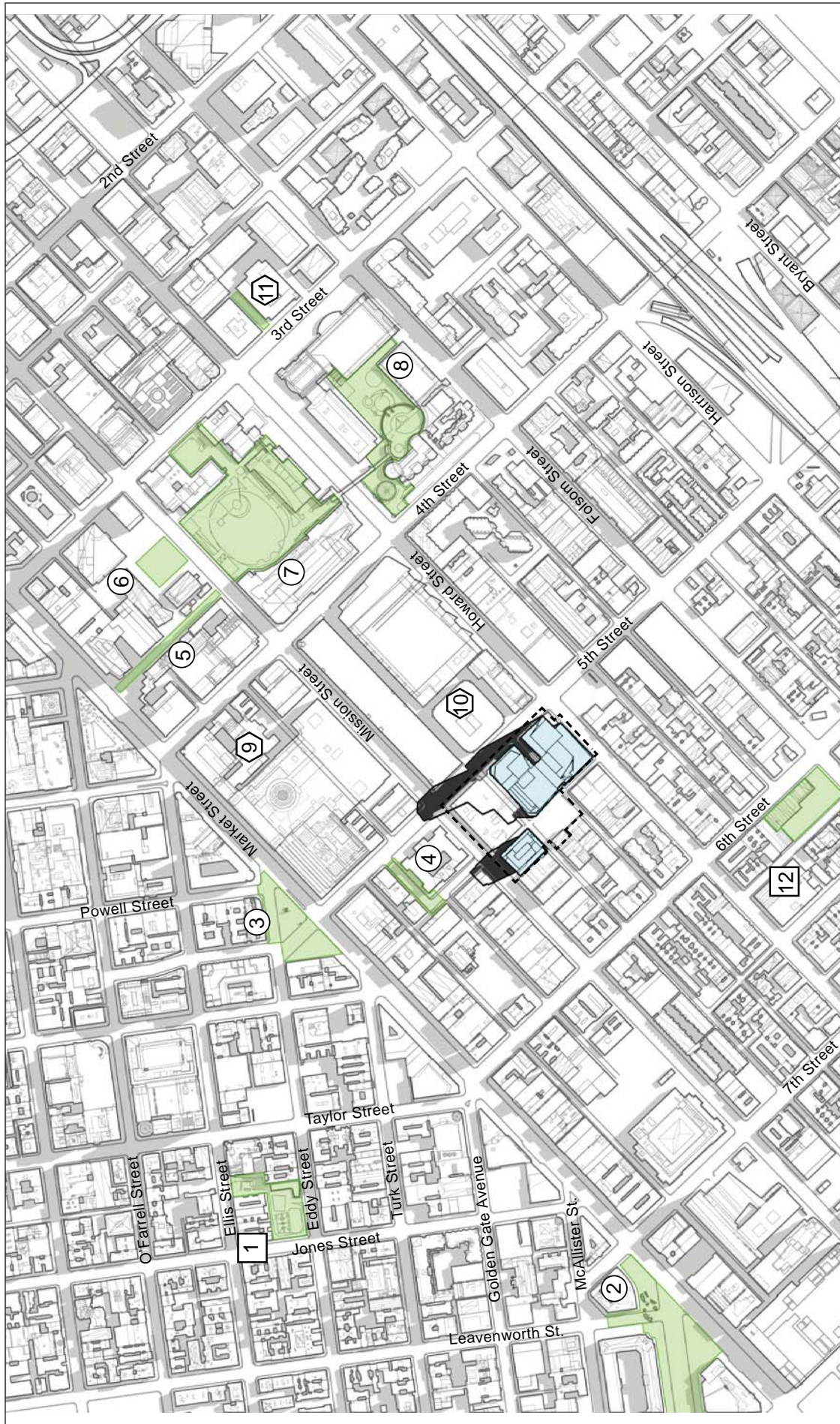



















FIGURE IV.G-22

- | | | | | | | | | | | | | | | | | | | | |
|---|-----------------|---|---|---|---|---|------------------------|---|---|--|---|---------------------------------|---|---|------------|---|---|---|-----------------------|
|  | Project Site |  | Open Space Boundary |  | New Project |  | Net New Project Shadow | Recreation and Park Commission Properties |  | 1 | Boeddeker Park | Other Public Open Spaces |  | 2 | U.N. Plaza | Privately Owned Public Open Spaces (POPOs) |  | 9 | Westfield Sky Terrace |
|  | Existing Shadow |  | 12 | Gene Friend Recreation Center |  | 3 | Hallidie Plaza |  | 10 | Intercontinental Hotel/Pacific Terrace |  | 4 | Mint Plaza |  | 11 | Moscone Plaza | | | |
|  | 5 | Yerba Buena Lane |  | 6 | Jessie Square |  | 7 | Yerba Buena Gardens North |  | 8 | Yerba Buena Children's Play Area | | | | | | | | |

5M Project EIR
 Project Shadow Pattern -
 September 20, 12:00 p.m.

SOURCE: ENVIRONMENTAL VISION, 10/6/14



FIGURE IV.G-23

- | | | |
|---|-------------------------|--|
| Privately Owned Public Open Spaces (POPOs) | ⑥ Westfield Sky Terrace | ⑨ Intercontinental Hotel/Pacific Terrace |
| Other Public Open Spaces | ⑩ Moscone Plaza | ⑪ Yerba Buena Gardens North |
| Recreation and Park Commission Properties | ⑫ Boeddeker Park | ⑬ Gene Friend Recreation Center |

5M Project EIR
 Project Shadow Pattern -
 September 20, 4:00 p.m.

Open Space Boundary
 New Project
 Net New Project Shadow
 Project Site
 Existing Shadow

TRUE
 0 200 400 FEET

SOURCE: ENVIRONMENTAL VISION, 10/6/14

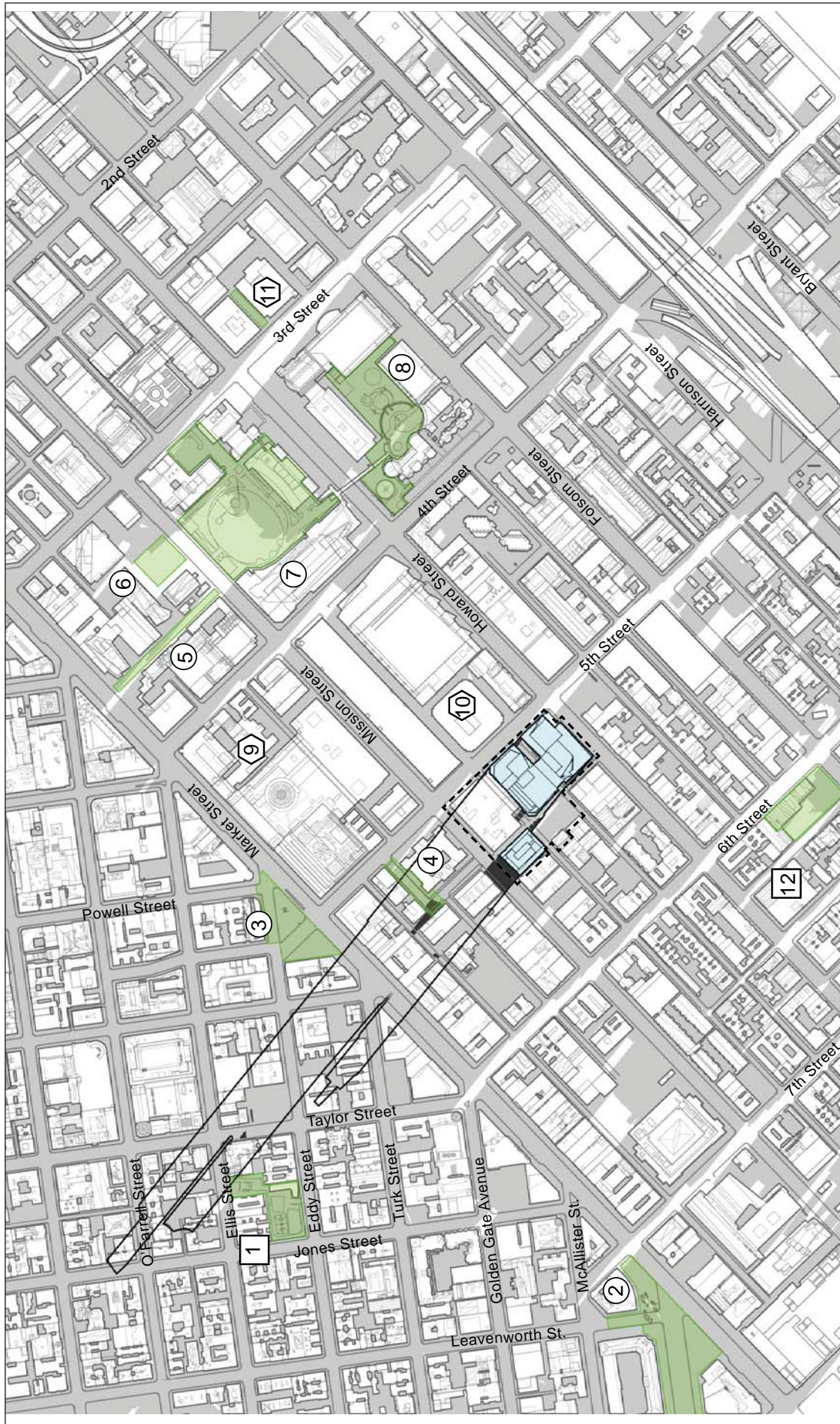


FIGURE IV.G-24

- Privately Owned Public Open Spaces (POPOs)**
 - ⑨ Westfield Sky Terrace
 - ⑩ Intercontinental Hotel/Pacific Terrace
 - ⑪ Moscone Plaza
- Other Public Open Spaces**
 - ② U.N. Plaza
 - ③ Hallidie Plaza
 - ④ Mint Plaza
 - ⑤ Yerba Buena Lane
 - ⑥ Jessie Square
 - ⑦ Yerba Buena Gardens North
 - ⑧ Yerba Buena Children's Play Area
- Recreation and Park Commission Properties**
 - ① Boeddeker Park
 - ⑫ Gene Friend Recreation Center

5M Project EIR
 Project Shadow Pattern -
 December 20, 8:20 a.m.
 (1 hour after sunrise)

Open Space Boundary
 New Project
 Net New Project Shadow
 Project Site
 Existing Shadow

TRUE
 0 200 400 FEET

SOURCE: ENVIRONMENTAL VISION, 10/6/14

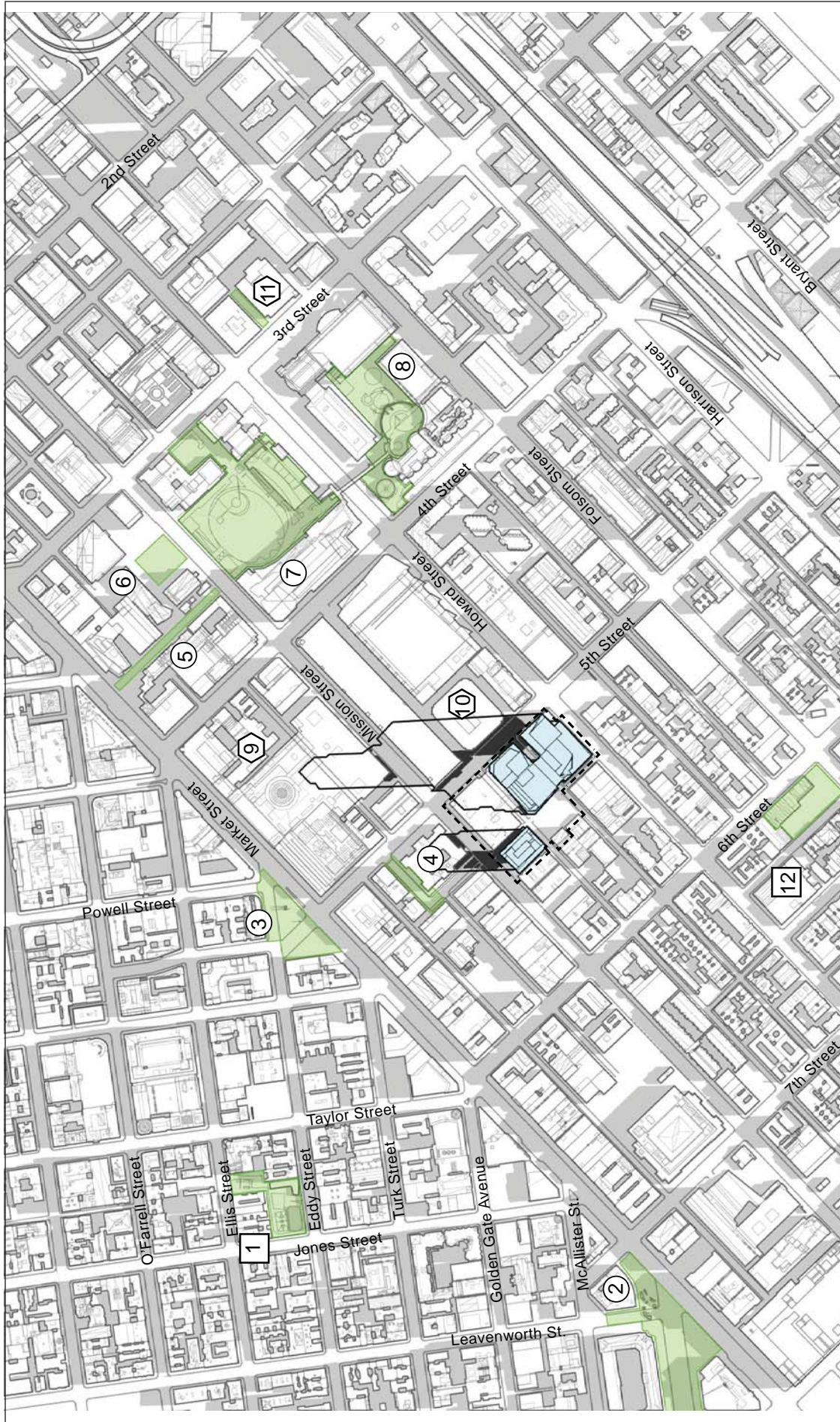


FIGURE IV.G-25

- Privately Owned Public Open Spaces (POPOs)**
 - ⑨ Westfield Sky Terrace
 - ⑩ Intercontinental Hotel/Pacific Terrace
 - ⑪ Moscone Plaza
- Other Public Open Spaces**
 - ② U.N. Plaza
 - ③ Hallidie Plaza
 - ④ Mint Plaza
 - ⑤ Yerba Buena Lane
 - ⑥ Jessie Square
 - ⑦ Yerba Buena Gardens North
 - ⑧ Yerba Buena Children's Play Area
- Recreation and Park Commission Properties**
 - ① Boeddeker Park
 - ⑫ Gene Friend Recreation Center

Legend:

- Open Space Boundary
- New Project
- Net New Project Shadow
- Existing Shadow
- Project Site

Scale: 0, 200, 400 FEET

North Arrow: TRUE, PROJECT, N

5M Project EIR
 Project Shadow Pattern -
 December 20, 12:00 p.m.

SOURCE: ENVIRONMENTAL VISION, 10/6/14

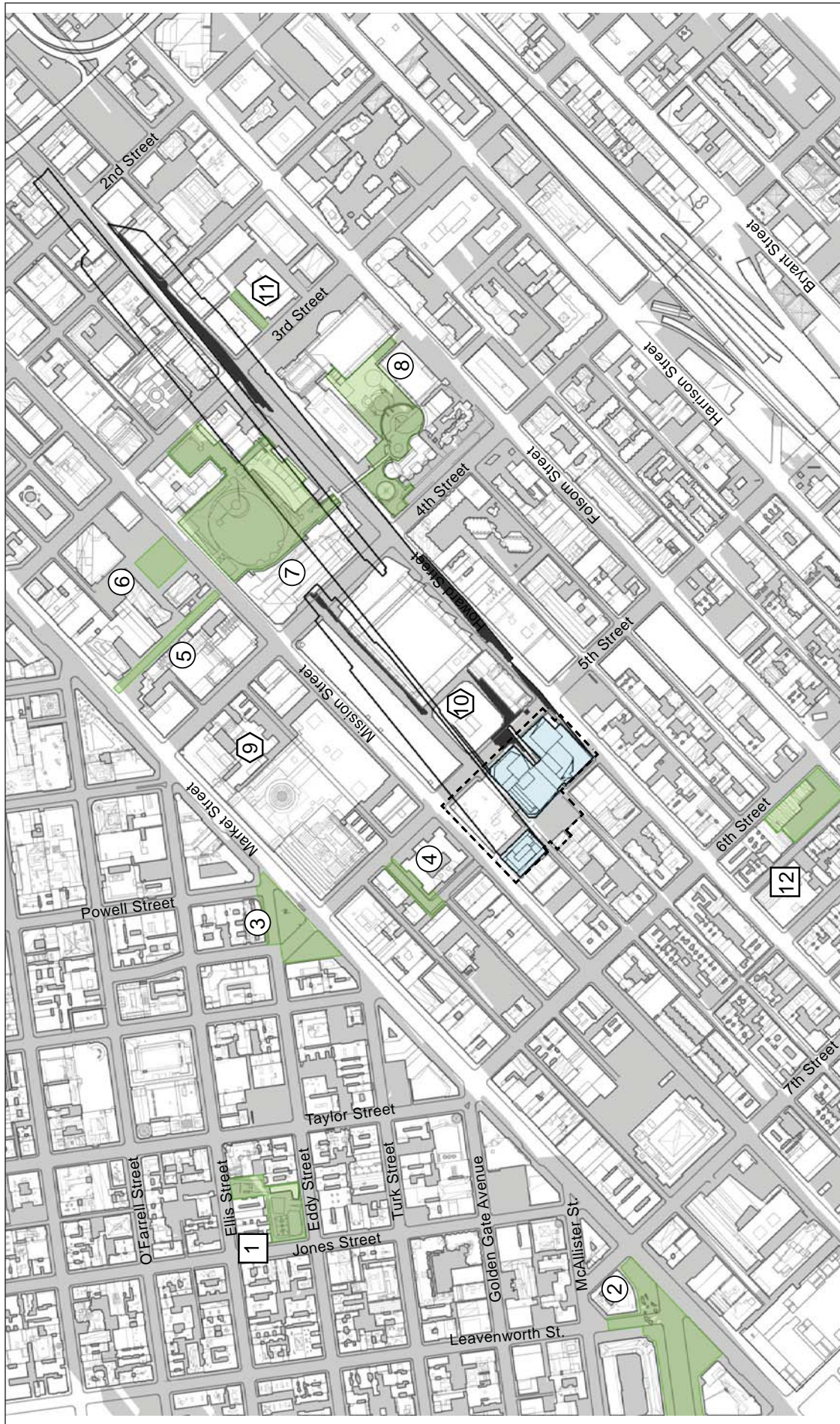


FIGURE IV.G-26

- | | | |
|---|------------------------------------|--|
| Privately Owned Public Open Spaces (POPOs) | ⑨ Westfield Sky Terrace | ⑩ Intercontinental Hotel/Pacific Terrace |
| Other Public Open Spaces | ② U.N. Plaza | ③ Hallidie Plaza |
| | ④ Mint Plaza | ⑤ Yerba Buena Lane |
| | ⑥ Jessie Square | ⑦ Yerba Buena Gardens North |
| | ⑧ Yerba Buena Children's Play Area | |

- | | | |
|--|------------------|---------------------------------|
| Recreation and Park Commission Properties | ① Boeddeker Park | ⑫ Gene Friend Recreation Center |
|--|------------------|---------------------------------|

Open Space Boundary
 New Project
 Net New Project Shadow
 Existing Shadow
 Project Site

TRUE N
 PROJECT
 0 200 400 FEET

5M Project EIR
 Project Shadow Pattern -
 December 20, 3:55p.m.
 (1 hour before sunset)

SOURCE: ENVIRONMENTAL VISION, 10/6/14

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Mint Plaza. Mint Plaza, which is located between the Old U.S Mint Building to the east and five- to 10-story buildings to the west, is shaded for much of the spring, summer, fall, and winter during the early morning and late afternoon hours. Although the entire plaza is used by pedestrians, key areas of passive use by visitors are clustered into the open space surrounding the vacated Jessie Street. This area contains ground level café and restaurant space, includes informal seating areas and chairs, and is the location of periodic events. The proposed Office Scheme would create net new shade on Mint Plaza during the morning hours in the spring, fall, and winter, generally between 9:00 a.m. and noon. On September 20, for instance, between 9:00 a.m. and 11:00 a.m., net new shadow would occur along the Mint Street portion of Mint Plaza, and would encompass some of the informal seating areas in the main portion of the plaza. Similar net new shadow patterns would occur between 9:00 a.m. and noon on December 20, but the bulk of the new shadow would be within the Mint Street right-of-way, which contains minimal public seating. Net new shading during the morning hours would detract from the outdoor experience in Mint Plaza. Even within the Mint Street right-of-way leading up to the main plaza, site observations indicate that pedestrians linger on the side of the street after buying coffee or passing through the area. Nevertheless, the area that would receive the bulk of the net new shadow is not formally programmed for stationary activities and would not be substantially adversely affected by net new project shadow. In addition, Mint Plaza would remain largely shade-free during the afternoons in the spring, summer, and fall. All of these shaded areas are outside the key plaza areas near the vacated portions of Jesse Street. Therefore, the net new shadow cast by the Office Scheme on Mint Plaza would not adversely affect the use of Mint Plaza.

Yerba Buena Lane. Yerba Buena Lane is a mid-block walkway that offers access to surrounding streets, Yerba Buena Gardens, and local cultural sites. Because the space comprises a relatively narrow (50-foot-wide) right-of-way, it is shaded for much of the year, and throughout much of the day. Times with minimal shading are restricted to around 11:00 a.m. and noon during the spring, summer, and fall, and around 9:00 a.m. The Office Scheme would contribute no net new shadow to this open space.

Jessie Square. Jessie Square, which faces Yerba Buena Gardens, experiences relatively long daily periods of sunlight compared to other open spaces in the area. Shading of the open space is minimal from approximately 9:00 a.m. to 3:00 p.m. during the spring and fall, between approximately 8:00

a.m. and noon in the winter, and between 9:00 a.m. and 3:00 p.m. in the summer. The proposed Office Scheme would not contribute shadow to Jessie Square, including net new shadow.

Yerba Buena Gardens North. Similar to nearby Jessie Square, Yerba Buena Gardens North experiences extensive daylight for much of the day, year-round. Shading of the open space is minimal between approximately 9:00 a.m. and 4:00 p.m. during the spring and fall, between approximately 9:00 a.m. and 3:00 p.m. in the winter, and between 9:00 a.m. and 4:00 p.m. in the summer. In the winter months, the Office Scheme would cast shadow on the western portion of the open space between approximately 3:00 p.m. and 4:00 p.m. On the worst-case shadow days, December 6 and January 4, the proposed project would cast new shadows over approximately 10 percent of the open space area during the mid-afternoon hours. The areas with net new shadows include a landscaped buffer between the stage and adjacent walkways, which typically precludes user access. In addition, programmed events that involve use of the stage are generally held between May and October, which is outside the period when net new shadow would occur. Implementation of the proposed project would result in a very small (about 0.07 percent) increase in shadow cast on Yerba Buena Gardens North. Because the amount of new shadows cast would be minimal and would only occur for a short period during the winter months, when the area is not heavily used, the proposed Office Scheme would not adversely affect the use of Yerba Buena Gardens North.

Yerba Buena Children's Play Area. The Yerba Buena Children's Play Area, which consists of an interconnected complex of indoor and outdoor spaces, experiences extensive unshaded periods throughout the year. The outdoor spaces, which include an amphitheater, a sunken Play Circle, a Learning Garden, and associated spaces, are mostly unshaded in the spring and fall between 10:00 a.m. and 6:00 p.m., in the summer between 8:00 a.m. and 7:00 p.m., and in the winter between noon and 3:00 p.m. Any new shadows that would be cast by the proposed project would occur during the afternoon hours of the day and would begin no earlier than approximately 2 hours and 15 minutes prior to sunset. On the worst-case shadow days, October 11 and March 1, the proposed project would cast new shadows over approximately 21 percent of the play area only during the late afternoon hours (including the circle and lawn area near the carousel). Maximum shading, 21 percent, begins at 5:30 pm, seven minutes before sunset. Also, on the worst-case days of the year, project shadow would

not affect the children's play area until 4:45 pm. Implementation of the proposed project would result in a very small (about 0.01 percent) increase in shadow cast on the Yerba Buena Children's Play Area. Because this increase would be minimal, would only occur for a short period during the winter months, and on the days of greatest shadow cast would begin less than an hour before sunset, the proposed Office Scheme would not adversely affect the use of Yerba Buena Children's Plan Area.

POPOS. There are three POPOS in the vicinity of the project site that could be affected by project shadow: Westfield Sky Terrace, Intercontinental Hotel/Pacific and Bay Terraces, and Moscone Plaza. The Office Scheme would not add net new shadow to the Westfield Sky Terrace or Moscone Plaza. The project may cast new shadows onto the open space terraces of the Intercontinental Hotel/Pacific and Bay Terraces in the afternoon hours from spring through fall, including a small area during the summer months. However, net new shadows cast by the Office Scheme would not affect the use of enjoyment of this POPOS.

Sidewalks. As noted above, Planning Code Section 146 is intended to protect sun access on sidewalks along street segments in the C-3 zoning district. The Office Scheme would add new shadow to sidewalks on Mission, Howard, Minna, Natoma, and Fifth Streets, and Golden Gate Avenue. The majority of net new shadows would mainly be cast on the Mission Street during the morning hours during the summer and during the morning and early afternoon hours during the winter and on 5th Street during the summer afternoon and winter late afternoon hours. During the winter months, late afternoon shadows would also be cast on Howard Street. This new shadow would be in an area of the City within height districts generally above 85 feet. Shadow would be typical of similar streets in Downtown San Francisco and would not be expected to adversely affect the use of sidewalks.

Summary

As described above, of the open spaces surrounding the project site, the Office Scheme would generate net new shadow only on Boeddeker Park, Mint Plaza, Yerba Buena Gardens North, and Yerba Buena Children's Play Area.

The net new shadow on Boeddeker Park would occur only in the early morning hours during the winter months, and would only affect only the entry gate, which does not contain active or passive recreational facilities such as seating or sports fields. Net new shadow cast would represent a very small increase in shadows cast. Therefore, the net new shadow would not adversely affect the use of Boeddeker Park.

New shadow on Mint Plaza would occur during the morning hours in the spring, fall, and winter, generally between 9:00 a.m. and noon. Although some of the net new shadow would encompass seating areas in the main portion of the plaza, most of the shadow would occur within the Mint Street right-of-way, which contains minimal public seating. In addition, Mint Plaza would remain largely shade-free during the afternoons in the spring, summer, and fall. Therefore, the net new shadow cast by the Office Scheme on Mint Plaza would not adversely affect the use of Mint Plaza.

Net new shadows cast on Yerba Buena Gardens North and Yerba Buena Children's Play Area would only occur for a short period during the winter months and would represent a very small increase in shadows cast. Net new shadows cast on Yerba Buena Gardens North and Yerba Buena Children's Play Area would not adversely affect the use of these facilities.

The Office Scheme would thus not adversely affect outdoor recreation facilities or other public areas within the project site vicinity.

Impact WS-2b: The Residential Scheme would create new shadow that would not adversely affect outdoor recreation facilities or other public areas within the project site vicinity. (Less Than Significant)

The Residential Scheme would result in a building envelope that is slightly smaller than the Office Scheme. While the Office Scheme would result in maximum building heights of 470 feet, the Residential Scheme would result in building heights of 411 feet. The impacts identified above for the Office Scheme thus capture the impacts of the Residential Scheme; it is likely that shadow coverage associated with the Residential Scheme would be incrementally reduced compared to the Office

Scheme. Therefore, less-than-significant impacts shadow impacts that would occur on Boeddeker Park, Mint Plaza, Yerba Buena Gardens North, and Yerba Buena Children's Play Area under the Office Scheme would be slightly reduced.

Cumulative Impacts. This section discusses the cumulative impacts to wind and shadow that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-WS-1: The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future projects, would not alter wind in a manner that substantially affects public areas within the vicinity of the project site. (Less Than Significant)

This analysis of the contribution of the project to cumulative wind conditions is based on consideration of the reasonably foreseeable future projects identified in **Table II-8, Reasonably Foreseeable Projects in the Site Vicinity**, in Chapter II, Project Description along with development anticipated as part of the Central SoMa Plan, formerly known as the Central Corridor Plan. The Central SoMa Plan is a draft plan that may allow for a large amount of development activity along a planned rail corridor in the vicinity of the project site.

The Central SoMa Plan, if approved, would increase development intensity and building heights to the east and southeast of the project site. Based upon RWDI's analysis of the project and prevailing wind patterns in the area, changes in wind patterns associated with the project would combine with wind patterns of only reasonably foreseeable future projects that would be located upwind of the project site (i.e., to the west-southwest through northwest directions from the project site). No substantially tall future projects would be located upwind of the project site. The closest changes in massing height (ranging from an increase of 60 feet to 150 feet) that would result from implementation of the Central SoMa Plan would occur to the east of the project site at the northeast quadrant of Folsom and Fifth Streets. Such development would not be expected to change wind conditions at the 5M Project site as they are all situated downwind, and relatively far removed, from the site. Other reasonably foreseeable future projects around the project site would be less than 150 feet in height and would be unlikely to produce wind accelerations at the ground level that would exceed the City's

hazardous wind criterion. Therefore, a quantitative wind tunnel analysis was not warranted in this case. Furthermore, individual development projects built as part of the Central SoMa Plan would be subject to project-level environmental assessment, as needed, including for wind effects. At that time, the effects of those projects on cumulative wind conditions would be analyzed, and if feasible, significant impacts to wind patterns would be mitigated. Therefore, a quantitative wind tunnel analysis of the project plus cumulative development was not warranted in this case.

Impact C-WS-2: The Office Scheme or Residential Scheme, in combination with past, present, and reasonably foreseeable future projects, would create new shadow that could adversely affect outdoor recreation facilities or other public areas within the project site vicinity. (Less Than Significant)

As discussed under the project-specific analysis, of the open spaces in the vicinity of the project site the project would contribute net new shadow only to Boeddeker Park (which is subject to Planning Code Section 295), Mint Plaza, Yerba Buena Gardens North, and Yerba Buena Children’s Play Area (which are not subject to Section 295 of the Planning Code). Based on the cumulative project diagrams prepared for the project, past, present, and reasonably foreseeable future projects would not adversely affect the use of these four open space facilities. Future development would not introduce any net new shadow to Boeddeker Park, Yerba Buena Gardens North, or Yerba Buena Children’s Play Area. Future development would introduce small amounts of net new shadow to Mint Plaza, but these would be limited in duration and would occur primarily around 5:00 p.m. during the summer, 3:00 p.m. during the spring and fall, and 1:00 p.m. during the winter. Therefore, past, present, and reasonably foreseeable future projects would not result in significant shading impacts on Boeddeker Park, Mint Plaza, Yerba Buena Gardens North, and Yerba Buena Children’s Play Area – the four open spaces for which the project would generate net new shadow. Furthermore, although the nearby 706 Mission Street project would cast new shadows upon Jesse Square, the project would not contribute any net new shadows to this open space area.

The net new shadow on Boeddeker Park that would be generated by the project would occur only in the early morning hours during the winter months, and would affect only the entry gate, which does

not contain active or passive recreational facilities such as seating or sports fields. Therefore, the net new shadow would not adversely affect the use of Boeddeker Park either in the project or cumulative conditions.

The project would generate new shadow on Yerba Buena Gardens North and Yerba Buena Children's Play Area during the late afternoon hours during the winter months, generally after 3:00 and 4:00 p.m., respectively. The net new shadow cast by the Office Scheme on Yerba Buena Gardens North and Yerba Buena Children's Play Area would not adversely affect the use of these facilities. Although shading of these facilities would increase slightly due to past, present, and reasonably foreseeable new development, the project would not make a substantial contribution to increased shading such that a cumulatively considerable impact would result.

The project would generate new shadow on Mint Plaza during the morning hours in the spring, fall, and winter, generally between 9:00 a.m. and noon. Although some of the net new shadow would encompass seating areas in the main portion of the plaza, most of the shadow would occur within the Mint Street right-of-way, which contains minimal public seating. In addition, the Mint Plaza would remain largely shade-free during the afternoons in the spring, summer, and fall. Therefore, the net new shadow cast by the Office Scheme on Mint Plaza would not adversely affect the use of Mint Plaza. Although shading of Mint Plaza would increase slightly due to past, present, and reasonably foreseeable new development, the project would not make a substantial contribution to increased shading such that a cumulatively considerable impact would result.

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H. PUBLIC SERVICES AND RECREATION

This section discusses the potential effects of the proposed project on fire protection and emergency response; police protection; open space and recreation; and library services provided by the San Francisco Fire Department (SFFD), San Francisco Police Department (SFPD), San Francisco Recreation and Parks Department (RPD), and San Francisco Public Library (SFPL), respectively. As described in the Recreation and Public Services sections of the Initial Study (pages 104 to 106 and pages 111 to 114, respectively), the proposed project could increase demand for these services which could in turn result in substantial adverse impacts associated with the provision of, or need for, new or physically altered government facilities that provide these services. Due to the increase in residential and employee population on the site, the project could also increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities may occur or be accelerated, and the construction of recreational open facilities proposed for the project could have a significant effect on the environment.

The Initial Study (pages 112 to 113) found that existing public school facilities provided by the San Francisco Unified School District could accommodate school-aged children generated by the project and that no new or altered school facilities would be required to meet the increased demand. The less-than-significant impact of the proposed project on school services is discussed on pages 112 to 113 of the Initial Study. This conclusion would apply to the currently-proposed project¹ (which would result in the development of up to 461 more residential units than analyzed in the Initial Study) because the San Francisco Unified School District has more classrooms District-wide than it needs, and facilities throughout the City and County are generally underutilized. This surplus of school space is expected to increase over the next 10 years as school enrollment declines, making it unlikely that new school facilities would be required to accommodate new students generated by either the Office Scheme or Residential Scheme.

¹ As previously described, the Initial Study considered the potential effects of an earlier iteration of the proposed project. Refer to pages 2 and 3 of Chapter 1, Introduction, for a description of the key differences between the January 2013 project evaluated in the Initial Study and the project evaluated in this EIR.

Environmental Setting

The following provides an overview of public services provided by SFFD, SFPD, RPD, and SFPL, and a description of the geographic distribution of related facilities, services areas, and the function, staffing, and operations of facilities serving the project site. This section also presents an overview of the regulatory framework that governs the provision of each of these public services. The information used in this analysis represents the best available data on SFFD, SFPD, RPD, and SFPL services. Existing public service facilities in the vicinity of the project site are shown in **Figure IV.H-1**.

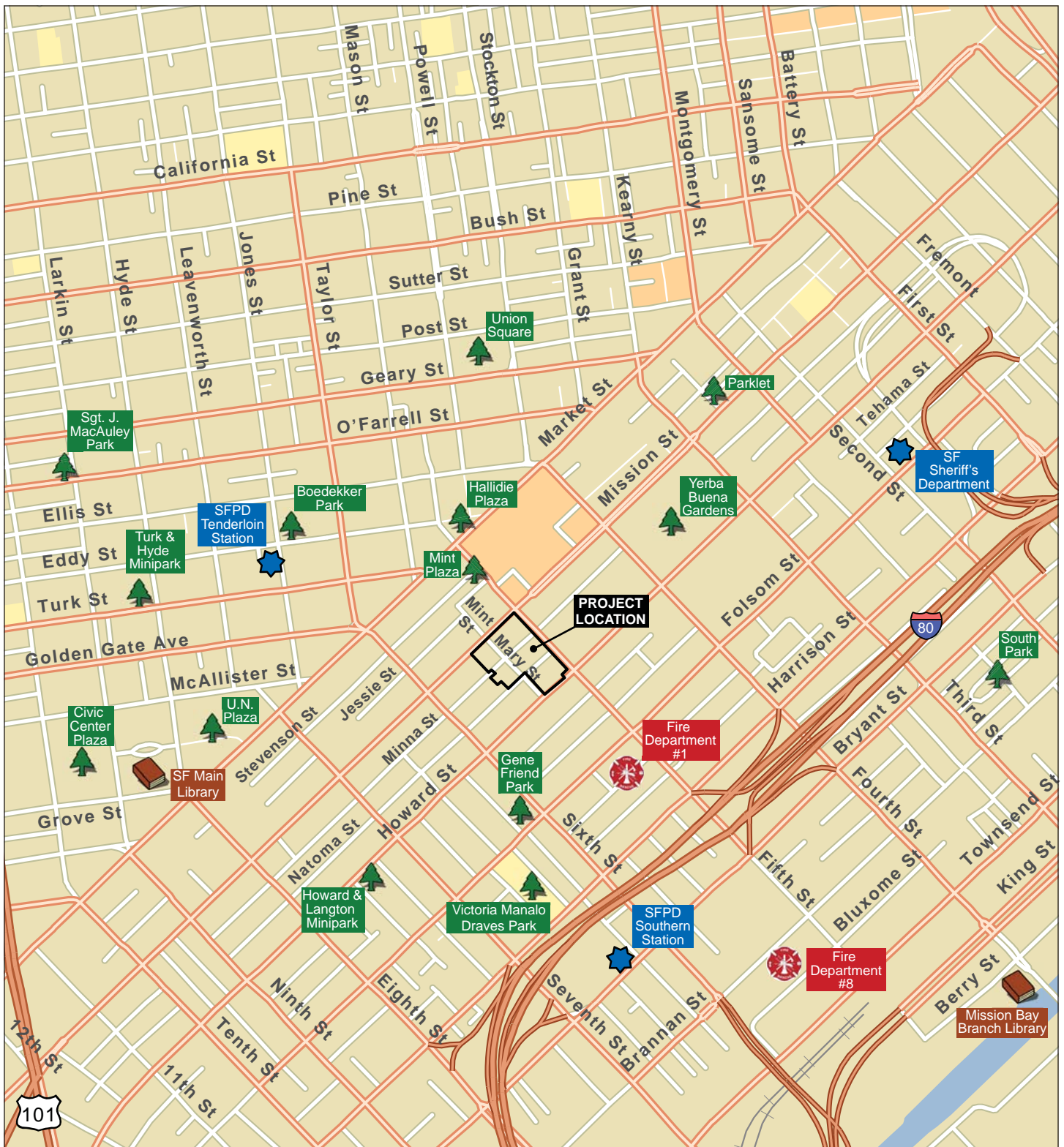
Fire and Emergency Medical Services

The information in this section is based on a *Review of San Francisco's Fire and Emergency Medical Services* conducted by the Office of the Controller in 2004² and communications with SFFD staff to verify information found in this report and provide new information as appropriate.³

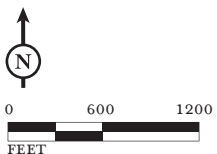
Overview. The SFFD provides fire suppression services and emergency medical services to the City and County of San Francisco. The SFFD is headquartered at 698 Second Street, approximately 1.2 miles southeast of the project site. The SFFD consists of 43 engine companies, 19 truck companies, 20 ambulances, 2 rescue squads, 2 fireboats, and 19 special purpose units. There are currently 43 permanently-staffed fire stations (Station 30 is currently out of service). Although the SFFD system has evolved over the years to respond to changing needs, the current station configuration has not changed substantially since the 1970s.

² City and County of San Francisco, Office of the Controller, *A Review of San Francisco's Fire and EMS Services*, April 28, 2004. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

³ Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, October 9 and November 13, 2013.



LSA



-  Police
-  Park
-  Fire
-  Library
-  Project Location

FIGURE IV.H-1

SOURCES: ESRI STREETMAP NORTH AMERICA (2012); LSA ASSOCIATES, INC., 2014.

5M Project EIR
Public Facilities Around Project Site

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The SFFD has a current staff of 1,430 fire fighters. Staffing at each station is determined based on the types of firefighting apparatuses each station maintains, which is related to the demand for emergency services experienced at each station. Engines are staffed with one officer and three firefighters, many of whom are trained emergency medical technicians (EMTs). On an Advanced Life Support (ALS) engine, one of the firefighters is a firefighter/paramedic, with a significantly higher level of medical training than an EMT. Trucks are staffed with one officer and four firefighters.

Ambulances are staffed with an EMT and a paramedic, who provides pre-hospital advanced medical and trauma care. The number of engines, trucks, and ambulances that are on duty at any one time is based on staffing availability.

The SFFD has redundancy built into its response system, so that prompt responses can be achieved if multiple emergencies occur simultaneously within a primary response area. Incident⁴ calls and responses are coded and SFFD has a protocol and order in which stations are called to respond, depending on the type of incident and whether vehicles or equipment are in use at another location. Between July 1, 2011 and June 30, 2012, the SFFD responded to 120,396 incidents within the City.⁵ Of these incidents, the majority (57 percent) required a response by combined fire and emergency medical services (EMS) personnel; 24 percent required a response by fire personnel; and 19 percent required a response by EMS personnel (medic only).⁶ In general, requests for an SFFD response peak at 3:00 p.m.; the fewest calls are received between 4:00 and 5:00 a.m.⁷

⁴ An incident is a specific event to which one or more fire stations or fire vehicles respond. Responses include each vehicle that is dispatched to the incident. Therefore, for one incident (depending on type), there could be two or more responses.

⁵ Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, October 9, 2013.

⁶ Ibid.

⁷ City and County of San Francisco, Office of the Controller, *A Review of San Francisco's Fire and EMS Services*, April 28, 2004. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

The SFFD is organized into three Divisions and the project site is located in Division 3, which extends from approximately Market Street on the north to the southern border of the City. Division 3 covers a mix of land uses, including the City's primary concentration of industrial uses.

Each Division consists of an assemblage of Battalions. Each Battalion consists of four to six individual stations. Battalion 3 encompasses the project site and is bounded by Market Street to the north; the Embarcadero to the east; 20th Street to the south; and an irregular line comprising several streets (including Langton, Folsom, Ninth, Bryant, Florida, Alabama, and Harrison Streets) to the west. In 2012, the four fire stations that currently comprise Battalion 3 received a total of 46,579 calls for service that resulted in dispatched units.⁸ Long-range plans within Battalion 3 include the construction of a planned 320,000 gross-square-foot public services facility in the Mission Bay South Redevelopment Area. The facility would include a new 22,000 square-foot fire station (Station No. 4), and the existing vacant Fire Station No. 30 would be reused by the SFFD's Arson Task Force.^{9, 10}

The project site is located in the First Alarm area for Station No. 1. Fire Station No. 1 is located at 935 Folsom Street, about 0.25 miles (or about 3 blocks) south of the project site. The second closest fire station to the project site is Fire Station No. 8, at 36 Bluxome Street (between Fourth and Fifth Streets), about 0.6 miles to the southeast. Fire Station No. 1 is currently staffed by 13 firefighters and houses three vehicles, including an engine, truck, and rescue squad.¹¹ Fire Station No. 1 is the busiest of the SFFD fire stations; in 2012, this station responded to 16,262 calls for service (note that multiple

⁸ Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, October 9, 2013.

⁹ San Francisco Redevelopment Agency, *Addendum #7, Mission Bay Public Safety Building*, January 7, 2010. Redevelopment Agency Case No. ER #919-97. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁰ Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, November 13, 2013.

¹¹ Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, October 9, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

vehicles responding to the same incident are counted as separate responses). Factors that contribute to the high demand for emergency responses at Fire Station No. 1 include the high population density in the response area, along with a wide range of land uses and a large transient population.¹²

In San Francisco, approximately 50 percent of the overall workload for suppression equipment (engines and trucks) is in response to alarms, including commercial and residential building alarms, alarms outside buildings, and street box alarms.

The SFFD seeks to adhere to the response time goals established by the National Fire Protection Agency. Across all standards, the SFFD has an achievement rate of 90 percent. In San Francisco, the response time clock starts when the dispatch is received and acknowledged at the station. The clock stops when the responding unit notifies the dispatcher that it is on the scene. In the case of a 5-minute elapsed response, the SFFD standard for “turn-out” time (the time from acknowledgement of the call to leaving the station) is 1 minute, leaving four minutes for travel. Data for the project area shows that current response times average around 3 minutes and 30 seconds.¹³ Below are the response time standards for fire suppression and emergency medical incidents established by the National Fire Protection Agency, which are used by the SFFD.

Fire Suppression Incident Response Time Standard

- First Arriving Engine Company Total Response Time: 5 minutes
- First Full Alarm Assignment Total Response Time: 9 minutes

¹² City and County of San Francisco, Office of the Controller, *A Review of San Francisco's Fire and EMS Services*, April 28, 2004. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹³ *Ibid.*

Emergency Medical Incident Response Time Standard

- First Responder Unit Total Response Time: 5 minutes
- Advanced Life Support (ALS) Unit Total Response Time: 9 minutes

Regulatory Overview. The regulatory framework for fire and emergency medical services in San Francisco includes the California Health and Safety Code, San Francisco Fire Code, and the City's General Plan, as discussed below.

California Health and Safety Code. State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which include building standards (also found in the California Building Code), and requirements for fire protection and notification systems, fire protection devices (such as extinguishers and smoke alarms), and fire suppression training.

San Francisco Fire Code. The San Francisco Fire Code incorporates by reference the California Fire Code, with certain local amendments. The San Francisco Fire Code regulates and governs the safeguarding of life and property from fire and explosion hazards arising from the storage, handling, and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises; provides for the issuance of permits, inspections, and other SFFD services; and allows for the assessment and collection of fees for those permits, inspections, and services.

The SFFD reviews building plans to ensure that certain fire and life safety features are provided and maintained in the buildings that fall under its jurisdiction. In coordination with the San Francisco Department of Building Inspection (DBI), the SFFD conducts plan checks to ensure that all structures, occupancies, and systems are designed in accordance with the San Francisco Building Code.

Section 511 (Local Fire Safety Feature Requirements) of the San Francisco Fire Code requires that buildings 200 feet or more in height must provide at least one elevator approved by the Fire

Department for firefighter use under fire conditions.¹⁴ The system must be tested and maintained pursuant to the Fire Department Administration Bulletin 5.07.

San Francisco General Plan. The General Plan Community Facilities Element contains objectives and principals related to the provision of fire facilities. Objective 5 indicates that a system of firehouses should be located throughout the City which will meet the operating requirements of the Fire Department in providing fire protection services and which will be in harmony with related public service facilities and with all other features and facilities of land development and transportation provided for other sections of the General Plan.

Police Services

The information in this section is based on communications with SFPD staff¹⁵ as well as crime data and statistics reports provided by the SFPD.

Overview. The SFPD provides police protection services in the City and County of San Francisco. The SFPD is currently headquartered in the Hall of Justice at 850 Bryant Street, approximately 0.6 miles southwest of the project site. The SFPD currently has approximately 1,671 sworn officers out of a total of approximately 1,971 authorized sworn positions (including airport officers). Recent reductions in staffing are due to retirements and there are currently numerous academy classes scheduled to increase staffing over the next several years.¹⁶

The SFPD divides the City into two areas—Metro and Golden Gate—which are each currently divided into five districts. The project site is within the Metro area's Southern District, which is based

¹⁴ San Francisco Fire Code (Ordinance No. 200-13), October 3, 2013.

¹⁵ Personal communication with Michael Connolly, Captain of Police, Fiscal Division, San Francisco Police Department, October 10, 2013.

¹⁶ Ibid.

out of the SFPD's headquarters, covers about 2.9 square miles and represents about 6.5 percent of the City's land area. The Southern District extends south from Market Street to 16th Street and east to San Francisco Bay, and covers the Treasure Island, Embarcadero, SoMa, Rincon Hill, South Beach, and China Basin neighborhoods, and personnel consists of 159 sworn officers.¹⁷ The SFPD headquarters and the Southern District station are slated to move from the Hall of Justice to the new public safety building in the Mission Bay South Redevelopment Area¹⁸ (within the Bayview Police District boundaries) by November 2014.¹⁹ The move would leave the Southern District without a police facility and would effectively result in two police stations in the Bayview District. The City is therefore currently exploring restructuring options to create SFPD district boundaries that:

- Achieve workload parity;
- Minimize response times;
- Preserve integrity of neighborhoods and other constructed or natural boundaries;
- Adjust for district-specific operational considerations;
- Provide a more logical alignment with political boundaries; and
- Are in line with police station facilities pursuant to the City's Capital Plan.²⁰

In September 2013, police stations housed within the Southern District received about of 4,768 calls for service, which are dispatched from the City's Emergency Communication division. In comparison, there were 28,411 calls for service Citywide for the same period. The project site is

¹⁷ Ibid.

¹⁸ San Francisco Redevelopment Agency, *Addendum #7, Mission Bay Public Safety Building*, January 7, 2010. Redevelopment Agency Case No. ER #919-97. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁹ City and County of San Francisco, Office of the Controller, City Services Auditor, *Request for Proposals for San Francisco Police Department District Station Boundaries Analysis, RFP#CON2013-18*, October 21, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²⁰ Ibid.

located in Car Sector 2, which is staffed 24 hours per day with either one or two officers each in overlapping shifts.²¹

The SFPD does not have an established response time goal; however, the SFPD strives to maintain an average response time of 3 to 5 minutes for Priority A calls.²² Priority A calls are considered the highest priority calls and signal emergency dispatch. Average September 2013 response times from dispatch to arrival in the Southern District were 4.36, 9.00, and 12.15 minutes for Priority A, B, and C calls, respectively. Average monthly response times for Priority A calls over the past year have peaked at 4.42 minutes and have reached a low of 3.51 minutes.²³

The SFPD does not have a standard for the ratio of officers to population and bases its staffing levels on the number of service calls and crime incidents. According to SFPD crime statistics, the most reported crimes in the area around the project site were property crimes related to personal and vehicle thefts and break-ins.²⁴ The crime rate within the Southern District averaged about 372 crimes (including violent and property crimes) per 1,000 persons in 2012, with the majority of these crimes (about 88 percent) consisting of property crimes.²⁵ The Citywide average crime rate for the same period was about 58 crimes per 1,000 persons.²⁶ The population density of the Southern District

²¹ Personal communication with Michael Connolly, Captain of Police, Fiscal Division, San Francisco Police Department, October 10, 2013.

²² Personal communication with Michael Connolly, Captain of Police, Fiscal Division, San Francisco Police Department, November 6, 2013.

²³ Personal communication with Michael Connolly, Captain of Police, Fiscal Division, San Francisco Police Department, October 10, 2013.

²⁴ Ibid.

²⁵ San Francisco Police Department, *Southern District Profile*, COMPSTAT, March 30, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

²⁶ San Francisco Police Department, *City Wide Profile*, COMPSTAT, March 30, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

(about 26,145 residents within 2.9 square miles)²⁷ contributes to some of this disparity in the crime rate.²⁸

Regulatory Overview. The San Francisco General Plan's Community Facilities Element establishes objectives, policies, and criteria for meeting San Francisco's long range requirements for police facilities, including the distribution, location, design, and use of police facilities. Per Policy 1.2., district stations should be provided such that they balance service effectiveness with community desires for neighborhood police facilities.

Parks and Recreation Services

The following provides an overview of the existing parks and recreational facilities in the vicinity of the project site. Information in this section is based on the *San Francisco Sustainable Communities Index*,²⁹ the *General Plan Open Space and Recreation Element*, and a review of RPD's website.³⁰

Citywide and Regional Facilities. The RPD owns and maintains approximately 3,433 acres of publically accessible recreation and open space in the City. Together with approximately 2,457 acres of open space properties owned and managed by other City, State (255 acres includes Candlestick and Mount Sutro), and federal (1,642 acres includes the Presidio, Ocean Beach, Fort Funston, Fort Mason, Lands End, Sutro Heights, and China Beach) agencies, a total of approximately 5,890 acres of

²⁷ The Southern District population calculation consists of permanent residents and does not account for day time workers. Similarly, crime rate statistics and response time calculations do not differentiate between the permanent residential population and day time worker population.

²⁸ Personal communication with Michael Connolly, Captain of Police, Fiscal Division, San Francisco Police Department, November 6, 2013.

²⁹ San Francisco Sustainable Communities Index, *Distribution of Open Spaces and Natural Areas, Indicator En.2.b Open Space*, 2012. This document is available for review at www.sustainablesf.org/indicators/view/8 (accessed December 6).

³⁰ San Francisco Recreation and Parks Department, Department Website, 2013. This document is available for review at: sfrecpark.org.

parkland and open space cover the City.³¹ These publically-owned open spaces make up approximately 20 percent of the City's total land area and include a variety of parks, walkways, landscaped areas, recreational facilities, and unmaintained open space. The City-owned park system includes more than 200 parks, playgrounds, and open spaces and recreational facilities include 25 multi-purpose recreation centers, 9 swimming pools, and 6 golf courses, in addition to numerous tennis and basketball courts, baseball fields, athletic fields, and basketball courts.

City residents also benefit from the Bay Area regional open space system. Regional resources include public open spaces managed by the East Bay Regional Park District in Alameda and Contra Costa Counties; the National Park Service in Marin; San Mateo County as well as State park and recreation areas throughout. In addition, thousands of acres of watershed and agricultural lands are preserved as open spaces by water and utility districts or in private ownership; however, these lands are not accessible to the public.

Within San Francisco, publicly accessible open spaces and recreational facilities are categorized according to their size and particular amenities as serving City, district, neighborhood, or sub-neighborhood (see **Table IV.H-1** for open space categories that apply to facilities near the project site). Several larger open space areas, including Golden Gate Park (1,017 acres), the Lake Merced complex (700 acres) and John McLaren Park (317 acres) compose about one-half of the total City-owned acreage in recreational use. Unlike neighborhood facilities, these larger areas provide programs, activities or recreation opportunities that serve the City as a whole. These spaces, in addition to smaller areas with unique attributes such as water features or hilltop vista points, function as City-serving open spaces because they attract residents from the entire City.

³¹ San Francisco Planning Department, *Distribution of Open Spaces and Natural Areas*, 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Based on San Francisco’s estimated 2013 residential population of 825,111 persons,³² the total 5,890 acres of parkland within the City translates to approximately 7.1 acres per 1,000 City residents.³³ As applied by the RPD, the *San Francisco Sustainability Plan* defines the need for open space capacity at 5.5 acres per 1,000 residents.³⁴ The San Francisco Department of Public Health, in its Healthy Development Measurement Tool (HDMT) Development Checklist, includes a benchmark for publically accessible open space as 10 acres per 1,000 residents that is based on National Parks and Recreation Association (NPRA) guidelines.³⁵ However considering the City’s high density nature and the confined nature of its land mass (28,918 acres), this ratio is difficult to achieve within San Francisco. The HDMT recognizes that other indicators, such as accessibility, safety, park maintenance, and usability, are also appropriate measures for measuring open space.³⁶

Nearby Recreational Facilities. Parks and recreational space in the vicinity of the project site include both Neighborhood and Sub-neighborhood-serving facilities, including Mint Plaza (located directly across Mission Street from the site), Hallidie Plaza (0.1 miles to the north of the site), Boeddeker Park (0.4 miles to the northwest of the site), Gene Friend Recreation Center Park (0.4 miles to the southwest of the site), Victoria Manalo Draves Park (0.5 miles to the southwest of the site), and Union Square (0.5 miles to the northeast of the site). In addition, Yerba Buena Gardens is located 0.3 miles to the east of the site. These facilities and associated characteristics are presented in **Table IV.H-1**.

³² California State Department of Finance, Demographic Research Unit, *Table 2: E-5 City/County Population and Housing Estimates*, January 1, 2013. Revised May 10. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

³³ City of San Francisco, San Francisco General Plan, Final Draft Recreation and Open Space Element, March 2014.

³⁴ The City of San Francisco Commission on the Environment. *The Sustainability Plan for the City of San Francisco*, 1997.

³⁵ San Francisco Department of Public Health, *Healthy Development Measurement Tool Development Checklist*, Version 4.03, December 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

³⁶ The NPRA also no longer recommends a single absolute “average” of park acreage per population. Other factors are now considered to be of greater importance, such as location and walking distance, and whether a facility provides needed services to the population it is intended to serve.

Table IV.H-1: Open Space Categories and Park Facilities Near the Project Site

Open Space Categories			Facilities Near the Project Site				
Types	Size	Characteristics/ Features	Park Facility	Park Location	Distance from Project Site	Size	Main Characteristics
Neighborhood- serving	<ul style="list-style-type: none"> • 1 to 10 acres, preferably 4 to 5 acres • Primarily serves a single community or neighborhood 	<ul style="list-style-type: none"> • usually landscaped, areas of scenic interest that are natural or man-made • provides passive and/or active recreational space not requiring organized programs • usually has playground areas containing a playlot, apparatus area and turf play area. • some squares, plazas, hilltop and shoreline open spaces also act as neighborhood serving sites. 	Boeddeker Park ^a	295 Eddy Street	0.4 miles to the northwest of the site	0.97 acres	<ul style="list-style-type: none"> • basketball court • playground/fitness equipment • public art • community clubhouse
			Gene Friend Recreation Center Park	270 Sixth Street	0.4 miles to the southwest of the site	1.02 acres	<ul style="list-style-type: none"> • full indoor gymnasium • activity room • weight room • auditorium • outdoor basketball court and playground • badminton and volleyball courts • ping pong and foosball tables
			Victoria Manalo Draves Park	Folsom and Sherman Streets	0.5 miles to the southwest of the site	2.52 acres	<ul style="list-style-type: none"> • softball field • basketball court • dual-level playground • picnic area • community garden • large, grassy field
			Union Square	Post and Stockton Streets	0.5 miles to the northeast of the site	2.6 acres	<ul style="list-style-type: none"> • a large performance stage • seasonal ice skating • restaurant and open air cafe
			Yerba Buena Gardens	750 Howard Street	0.3 miles to the east of the site	9 acres	<ul style="list-style-type: none"> • restaurants and cafes • gardens • fountains • sculptures • carousel
Subneighborhood- serving	<ul style="list-style-type: none"> • < 1 one acre in size • Used primarily by people from the immediately adjacent area 	<ul style="list-style-type: none"> • mini parks, include a totlot or playground • small landscaped space with seating areas for all users to enjoy 	Mint Plaza	Between Jessie and Mint Street off of Fifth Street	directly across Mission Street from the site	0.33 acres	<ul style="list-style-type: none"> • pedestrian plaza • restaurants • cafes • a multi-use performance venue
			Hallidie Plaza	Intersection of Powell, Fifth and Market Streets	0.1 miles to the north of the site	1 acre	<ul style="list-style-type: none"> • landscaped plaza with walkways, trees, large plant basins, and sidewalk furniture

^a Boeddeker Park is currently undergoing renovations; the park characteristics listed here reflect the new design.

Source: LSA Associates, Inc., San Francisco Recreation and Park Department, 2013; San Francisco General Plan, Final Draft Recreation and Open Space Element, March 2014.

Located less than 0.5 miles (approximately 1,600 feet) to the northwest, Boeddeker Park is the closest neighborhood-serving park to the project site. The open space is enclosed by an 8-foot-tall fence and is locked at night. Normally the park is open daily from 9:00 a.m. to 6:00 p.m.; however, Boeddeker Park is currently closed to the public due to renovations recently undertaken as part of a redesign and improvement program sponsored by the Trust for Public Land. The new park design addresses community concerns, including improving safety, active and passive recreation opportunities for all ages, and beautification elements. Renovations are planned to include a reconfigured lawn area, seating and play areas, as well as improvements to the clubhouse building and landscaping. It is expected that the renovated park will reopen in Fall of 2014.

Privately-owned public open spaces (POPOS) within the City consist of publicly accessible spaces in forms of plazas, terraces, atriums, and small parks and landscaped areas (some with few pedestrian amenities) that are provided and maintained by private developers. In San Francisco, POPOS mostly appear in the Downtown office district area. Indoor and outdoor POPOS within the vicinity of the project site include 835 Market Street (Westfield San Francisco Centre) and 888 Howard Street (Intercontinental Hotel). Both of these open spaces consist of elevated spaces on building podiums or roofs.³⁷

A variety of public parks, POPOS, and other recreational opportunities are also located within about 1 mile from the project site. The Embarcadero Promenade, Rincon Park, the Ferry Building Plaza, and Justin Herman Plaza are located along the waterfront, east of the project site and provide over 15 acres of nearby park and recreational opportunities.

Open space areas throughout the City also include “green connectors,” or heavily landscaped pathways or roadways that serve as connections between open space, parks, and recreational

³⁷ San Francisco Planning Department, *San Francisco Privately-Owned Public Open Spaces Map*, December 24, 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

facilities or otherwise provide access to scenic points of interest. These can include streets which may be heavily landscaped and are attractive to pedestrians and bicyclists and are known as bicycle boulevards, neighborhood greenways, and green streets. There are currently 24 routes within the City's green connections network.³⁸

Regulatory Overview. The provision of open space and recreation uses within the City are considered by several planning efforts. The Planning Department, in conjunction with the RPD, the Mayor's Office, and the Neighborhood Parks Council is currently evaluating the open space needs of the entire City over the next 100 years. As part of the Open Space 2100 project, a Draft Open Space Framework is being developed that includes two components: the draft Citywide Vision for Open Space, which provides a broad outline of the City's ideal open space network over the next 100 years, and the recent update of the Recreation and Open Space Element of the *General Plan*. The following section describes applicable local policies and regulations that pertain to parks and recreational facilities.

San Francisco General Plan. The recently adopted update to the *General Plan* Recreation and Open Space Element and the Downtown Area Plan's Open Space section contain objectives and policies related to the provision of open space and recreational facilities within the City. The guiding principles of the Open Space and Recreation element focus on integrated and multifunctional facilities, a sense of place, equity and accessibility, connectivity, health and safety, ecological function and integrity, and sustaining stewardship. In particular, Objective 9 of the Downtown Area Plan specifies that quality open space should be provided in sufficient quantity and variety to meet the needs of Downtown workers, residents, and visitors. Refer to Chapter III, Plans and Policies, for further details.

³⁸ City and County of San Francisco, *San Francisco Green Connections*, March 2014.

Planning Code. Sections 135 and 138 of the City Planning Code specify the amount of usable open space required to be supplied by new development, including private open space, common open space, and privately-owned public open space. Section 412 of the Planning Code sets forth the requirements and procedures for the Downtown Park Fee and establishes the Downtown Park Fund. The amount of the fee is two dollars per square foot of the net addition of gross floor area of office use. Refer to Chapter III, Plans and Policies, for further details.

Library Services

The information in this section is based on a review of SFPL services as described on the SFPL's website and in available background and planning documents.³⁹

Overview. The SFPL is a public library system that includes 28 neighborhood branches throughout the City. The Main Library is located in the City's Civic Center, at 100 Larkin Street. Both the Main Library and branch libraries provide information and accessibility services, book and multimedia lending, reading and meeting rooms, citizenship and technological resources, and library-sponsored exhibitions and programs. Public libraries near the project site include the Main Library, about 0.7 miles to the northwest and the Mission Bay Branch, located at 960 Fourth Street, about 1 mile to the southeast.

Regulatory Setting. The provision of library services within San Francisco is addressed in the San Francisco General Plan and the San Francisco Library Strategic Plan, as discussed below.

San Francisco General Plan. The San Francisco General Plan's Community Facilities Element includes objectives, policies, and criteria for meeting San Francisco's long-range facility requirements,

³⁹ San Francisco Public Library, Friends of the San Francisco Public Library, *Annual Report 2010-2011-2011/2012*, 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

including the distribution, location, design, and use of library facilities. In general, branch libraries should have a service area range of not more than one mile, and should be comprised of large branches each serving a population of 25,000 to 50,000. In areas of low population density or areas prescribed by physical barriers small branches may be developed to serve a population of 10,000 to 15,000.

Branch Library Improvement Program. The Branch Library Improvement Program (BLIP), which is a partnership between the SFPL and the City's Department of Public Works, was created after voters passed a \$106 million bond measure to upgrade San Francisco's branch library system in November 2000. In November 2007, voters passed Proposition D, which authorized additional funding to improve the City's branches. Improvements include renovating branches to be seismically safe, accessible, technologically updated, code compliant City-owned branch libraries, and responsive to current services, yet flexible enough to meet future needs. The BLIP was completed in 2013 with completion of the North Beach Library.

San Francisco Public Library Strategic Plan. The San Francisco Public Library Strategic Plan⁴⁰ was adopted in 2003 as part of the BLIP and is the library's guiding policy and planning document. The Strategic Plan does not set a standard for library service, but provides every library with a unifying organizational vision and system-wide goals. Some of the overarching goals are to develop and maintain Library programs that are community-based, provide programming of interest to neighborhoods, and to renovate facilities to reflect the unique characteristics of the neighborhoods they serve and to enhance the library as an inviting and useful place to visit.

⁴⁰ San Francisco Public Library, *San Francisco Public Library Strategic Plan 2003-2006*, 2003. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Impacts and Mitigation Measures

Significance Criterion. Implementation of the proposed project would have a significant effect on fire, police, open space and recreation, and library services if it would:

- Result in a substantial adverse physical impacts associated with the provision of, or the 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 public services such as fire protection, police protection, parks, or other services;
- 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;
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment; or
- Physically degrade existing recreational resources.

Approach to Analysis. Under the Office Scheme, the completed project would result in a total of 554,200 gsf of net new office space; 914 new dwelling units; and 152,600 gsf of active ground floor uses, resulting in the introduction of 3,684 net new workers, 2,084 residents, and high-rise buildings reaching up to 470 feet in height to the site. About 44,600 gsf of shared residential open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site.

Under the Residential Scheme, the completed project would result in a total of 280,800 gsf of net new office space; approximately 1,209 dwelling units; and 152,600 gsf of active ground floor uses, resulting in the introduction of 2,377 net new workers, 2,757 residents, and high-rise buildings reaching up to 411 feet high to the site. About 62,100 gsf of shared residential open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site.

The following analysis considers the increase in demand for services that would occur under both project schemes and whether or not significant adverse physical impacts would result with the increase in demand. Where appropriate, the evaluation considers the project's effects on existing and future facilities, services areas, and the function, staffing, and operations of facilities serving the project site.

Impact Evaluation. As discussed below, implementation of the Office and Residential Schemes would increase the demand for fire, police, open space and recreation, and library services, but not to such a degree that significant physical impacts to the environment would occur.

Fire and Emergency Response Services

Impacts to fire and emergency services that would result from implementation of the Office and Residential Schemes are identified and discussed below.

Impact PS-1a: The increased employee and residential population associated with the proposed project's Office Scheme would not increase demand for fire services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Implementation of the Office Scheme would result in the introduction of 3,684 net new workers, 2,084 residents, and high-rise buildings reaching up to 470 feet in height to the site and would therefore increase the demand for fire and emergency medical services; however, as discussed below, additional personnel, equipment, and facilities would not be required to maintain adequate levels of fire protection and emergency medical services.

Calls for Service and Response Times. The SFFD anticipates the project, under either the Office Scheme or the Residential Scheme, would increase the number of calls for service directed to Station No. 1 by 120 additional calls per year,⁴¹ or by less than 1 percent over the existing 16,626 calls responded to in the 2012 fiscal year.⁴² Station No. 1 is already one of the busiest stations in the City; however, this increase would not be substantial in the context of the existing call volume.⁴³

Buildings greater than three stories in height may generally increase the length of emergency response times up to twice as long as average response times for single occupancy residences or those three stories or less. Response times may however be significantly improved when responders can be greeted on arrival or have access to an “emergency mode” of elevator transport (preventing non-critical elevator stops). Construction of the proposed high-rise buildings would be required to conform to the provisions of the *Building Code* and *Fire Code* which require additional life-safety protections for such structures.

Standard fire-fighting techniques applicable in high-rise buildings would apply to the proposed project, and adherence to all applicable *Building Code* and *Fire Code* provisions would ensure that the project is constructed to allow for efficient emergency response. In addition, the vehicular circulation pattern at the site would be altered with the closure of Mary Street, between Mission and Minna Streets, to vehicular traffic and construction of a new northbound 32-foot wide roadway segment located approximately 75 feet west of the existing right-of-way, between Minna and Natoma Streets. As discussed in Section IV.D, Transportation and Circulation, adequate emergency access would continue to be provided to the site.

⁴¹ SFFD staff determined the increase in number of calls by comparing call volume in similar areas before and after new high-rise construction was completed.

⁴² Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, October 9 and November 13, 2013.

⁴³ Personal communication from Raymond Guzman, Deputy Chief of Administration, San Francisco Fire Department, October 9, 2013.

Average response times in the project area are currently around 3 minutes and 30 seconds and Station No. 1 currently serves a wide variety of high-rise buildings in the area. Longer than average response times could result with the proposed project when more than 1 call is in the system for Fire Station No. 1; however, because adequate emergency access to the site and within the high-rise buildings would be provided, it is anticipated that the SFFD would continue to meet the response time goal of less than 5 minutes, 90 percent of the time.

Personnel, Equipment and Facilities. As described above, response times from existing facilities to the project site would not be substantially affected with the increased demand for fire and emergency medical services. As such, it is not anticipated that additional personnel or equipment would be required to serve the proposed project. Although the increase in call volume would likely result in increased wear and tear on vehicles, additional maintenance, and eventual replacement of equipment at a faster rate, the project would contribute additional revenues to the City's General Fund, which supports SFFD's ongoing personnel, equipment and maintenance needs.

Station No. 1, which would be the first responder to the project site, was recently relocated to its current location, which includes a new modern facility with three vehicle bays. Because the proposed project would not substantially increase the demand for fire services beyond the capacity of the existing personnel and equipment housed at Station No. 1, no new facilities would need to be constructed to serve the proposed project. In addition, Station No. 4 will eventually be added to Battalion 3 as part of the public services facility that will serve the Mission Bay South Redevelopment area, increasing the number of fire stations within this area of the City to five. Therefore, the Office Scheme would not increase demand for fire services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services as no such facilities would be required to serve the proposed project. Implementation of the Office Scheme would result in a less-than-significant impact related to fire and emergency protection services.

Impact PS-1b: The increased employee and residential population associated with the proposed project's Residential Scheme would not increase demand for fire services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Similar to the discussion provided above for the Office Scheme (Impact PS-1a), the introduction of 2,377 net new workers, 2,757 residents, and high-rise buildings reaching up to 411 feet high to the site with implementation of the Residential Scheme would increase the demand for fire and emergency medical services. Because the increase in call volume, and thus the demand for services, is anticipated to be similar under both schemes, the impact to fire and emergency protection services identified above for the Office Scheme reflects the impact of the Residential Scheme. Additional personnel, equipment, and facilities would not be required to maintain adequate levels of fire protection and emergency medical services with implementation of the Residential Scheme and this impact would be less than significant.

Police Services

Impacts to police services that would result from implementation of the Office and Residential Schemes are identified and discussed below.

Impact PS-2a: The increased employee and residential population associated with the proposed project's Office Scheme would not increase demand for police services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Implementation of the Office Scheme would increase the number of net new workers on the site by 3,684 and introduce approximately 2,084 new residents to the area. The introduction of new workers and residents to the site would increase the demand for police services; however, as discussed below,

additional personnel, equipment, and facilities would not be required to maintain adequate levels of police services.

The project would directly increase the resident and daytime population on the site, and within the SFPD's Southern District, by introducing new residents and workers to the area, which could, in turn, increase the calls for police service. The SFPD assesses the need for services based not just on population growth, but also on calls for service, types and time of traffic and pedestrian flow patterns, and operational hours of uses within the Southern District. The increase in population growth on the site would increase the number of calls for service to the site, modify traffic and pedestrian flow patterns, and increase day and nighttime activity in and around the project site.

The Southern District, with a population of 26,145 residents, receives an average of 4,768 calls for service each month and has an average crime rate of about 372 crimes per 1,000 residents per month. The Office Scheme would add about 2,084 new residents to the area and, assuming the same crime rate, it could add about 380 additional calls for assistance per month. This represents a 7 percent increase in calls per month.

According to the SFPD, with reasonably foreseeable increases in staffing up to the authorized level that would occur with the hiring of new recruits and with the opening of the new public services facility in the Mission Bay Redevelopment Area (and subsequent implementation of redistricting recommendations), it is expected that current/planned staffing levels would be adequate to serve the increased demand generated by the proposed project. Many of these improvements to the SFPD operations are designed to respond to increased growth in this area of the City and ensure that adequate response times and distribution of police officers are achieved.

In addition, the project sponsor would be required to work with the SFPD and the Department of Emergency Management to ensure that emergency communication systems within the new high-rise buildings are functional and appropriately designed. Such strategies may include police access to control systems, surveillance cameras and other technology, evacuation procedures and live drills,

high-rise crime prevention through environmental design, disaster preparedness, access and egress points of identification, and private security offices, if appropriate.

Given that the proposed Office Scheme would not substantially affect SFPD response times and services to the project site, such that inadequate staffing or response times would result, implementation of the Office Scheme would not increase demand for police services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services as no such facilities would be required to serve the proposed project. Implementation of the Office Scheme would result in a less-than-significant impact related to police protection services.

Impact PS-2b: The increased employee and residential population associated with the proposed project's Residential Scheme would not increase demand for police services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Implementation of the Residential Scheme would increase the number of net new workers on the site by 2,377 and introduce approximately 2,757 new residents to the area. The Southern District, with a population of 26,145 residents, receives an average of 4,768 calls for service each month and has an average crime rate of about 372 crimes per 1,000 residents per month. The Residential Scheme would add about 2,757 new residents to the area and, assuming the same crime rate, it could add about 525 additional calls for assistance per month. This represents an 11 percent increase in calls per month. This increase in the number of calls for service is greater than the increase assumed with implementation of the Office Scheme; however, similar to the discussion provided above for the Office Scheme (Impact PS-2a), the increase the demand for police services would not be such that additional personnel, equipment, or facilities would be required to maintain adequate levels of police services. Therefore, this impact is less than significant.

Parks and Recreation Services

Impacts to parks and recreation services that would result from implementation of the Office and Residential Schemes are identified and discussed below.

Impact PS-3a: The increased employee and residential population associated with the proposed project's Office Scheme would not increase demand for parks and open space service to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Implementation of the Office Scheme would result in a total of 871,900 gsf of office space; 914 new dwelling units; and 152,600 gsf of active ground floor uses, resulting in the introduction of 3,684 net new workers and 2,084 residents to the area. As shown in **Table II-5** in Chapter II, Project Description, about 44,600 gsf of shared open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site with implementation of the Office Scheme. Publicly-accessible open space would be provided as part of the larger program of public realm improvements that would occur throughout the project site. The public realm includes traditional publicly-accessible spaces that, together, are intended to meet Planning Code requirements for commercial and residential open space, as modified by the Fifth and Mission SUD and the D4D, which would be implemented as part of the project and contain specific development controls and design guidelines for the provision of open space on the projects site. Project Description **Figure II-18** shows the proposed open space plan.

Planning Code Sections 135 and 138 specify the amount of useable open space and privately-owned public open space required to be supplied by new development occurring on the project site. As discussed in Chapter III, Plans and Policies, the Office Scheme would include about 43,760 gsf of shared residential open space; 7,900 gsf would be for use by residents only, and 35,860 gsf would consist of shared open space uses for use by project residents, workers, and the public. The proposed project meets the required open space provision. As such, the Office Scheme would meet the on-site

demand for parks and open space services generated by new residents and workers as defined by the Planning Code and would not require construction of new facilities or alteration of existing facilities that provide parks and open space services in order to meet the demand. Therefore, impacts related to the provision of open space would be less than significant.

Refer to Impact PS-4a for a discussion of existing neighborhood parks and recreational facilities and the related less than significant impact associated with the potential physical deterioration of such facilities that would occur with implementation of the Office Scheme.

Impact PS-3b: The increased employee and residential population associated with the proposed project's Residential Scheme would not increase demand for parks and open space service to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Implementation of the Residential Scheme would result in a total of 598,500 gsf of office space; approximately 1,209 dwelling units; and 152,600 gsf of active ground floor uses, resulting in the introduction of 2,377 net new workers and 2,757 residents to the project site. About 62,100 gsf of shared open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site. The overall combination of private and public open space provided by the Residential Scheme would be similar to the Office Scheme, with the exception that an additional 17,500 gsf of podium rooftop open space would be provided within Building H-1.

As discussed in Chapter III, Plans and Policies, the Residential Scheme would include about 39,550 gsf of shared residential open space; 21,900 gsf would be for use by residents only, and 17,650 gsf would consist of shared open space uses for use by project residents, workers, and the public. The proposed project meets the required open space provision. As such, the Residential Scheme would meet the on-site demand for parks and open space services generated by new residents and workers as defined by the Planning Code and would not require construction of new facilities or alteration of

existing facilities that provide parks and open space services in order to meet the demand. Therefore, impacts related to the provision of open space would be less than significant.

Refer to Impact PS-4b for a discussion of existing neighborhood parks and recreational facilities and the related less than significant impact associated with the potential physical deterioration of such facilities that would occur with implementation of the Residential Scheme.

Impact PS-4a: The increased employee and residential population associated with the proposed project's Office Scheme would not increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities would occur or be accelerated. (Less Than Significant)

Implementation of the Office Scheme would increase the number of net new workers on the site by 3,684 and introduce approximately 2,084 new residents to the area. About 43,760 gsf of shared residential open space (including 35,860 gsf of privately-owned publicly-accessible open space) would be provided throughout the site. As discussed above under Impact PS-3a, the proposed project would meet the on-site demand for open space, per Planning Code requirements. However, new employees and residents may choose to use off-site parks and recreation services, increasing the use of these facilities.

Office workers often use local plazas and parks for lunch breaks or other light impact activities; these activities are not considered to be substantial contributors to the deterioration of recreational facilities and open space. Thus, the following analysis primarily focuses on the residential component of the project as the addition of residents to this area would have the greatest potential to increase the use of existing recreational facilities and open space.

As previously described, there are several public parks and open spaces within less than 0.5 miles of the project site and an even greater number of recreational opportunities within about 1 mile of the site. The distance of recreation and open space facilities from potential users is generally defined as

the service area for the facility or open space and is dictated by the type of park (i.e., neighborhood-serving or district-serving). The distance is also indicative of how far a particular type of user would walk (i.e., a family with children will not walk as far as an adult). Nearby public parks and open spaces including Mint Plaza, Hallidie Plaza, Boeddeker Park, Gene Friend Recreation Center Park, Victoria Manalo Draves Park, Union Square, and Yerba Buena Gardens are all located 0.5 miles or less from the site and together provide an approximate total of 16 acres of open space consisting of parks, plazas, and other recreational facilities (or about 7.6 acres per 1,000 residents generated by the project). Nearby recreational opportunities along the waterfront provide an additional 15 acres.

Project residents and, to a lesser extent, project office workers would utilize these nearby open space facilities; however, these facilities are designed to serve the dense population found in this area of the City. In addition, under-construction improvements to Boeddeker Park are designed to better address neighborhood needs and provide updated facilities. Based on the City's estimated 2013 population of 825,111 residents, there is an estimated ratio of 7.1 acres of parkland per 1,000 residents. The Office Scheme would add 2,084 residents thus increasing the City population to 827,195, negligibly decreasing the existing parkland to resident ratio by less than one tenth of a percent. In addition to off-site open space areas, residents and workers would use the private and shared on-site open spaces that would be provided by the project. The proposed project would also be required to pay the Downtown Park Fee (\$2 per net gsf of new office use, or about \$1.1 million), which contributes to the acquisition and development of new parkland in the City. Because the project would provide the required square footage of open space within the site (refer to Impact PS-3a), it is not expected that residents would need to seek open space opportunities elsewhere within the City to such a degree that overuse of existing facilities would result.

Given the wide variety and quantity of nearby public parks, plazas, and recreation opportunities, and with the provision of adequate on-site open space, the anticipated increase in demand generated by the Office Scheme would not increase the use of adjacent or nearby recreational facilities such that substantial physical deterioration of existing facilities would occur or be accelerated. This is a less than significant impact.

Impact PS-4b: The increased employee and residential population associated with the proposed project's Residential Scheme would not increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities would occur or be accelerated. (Less Than Significant)

Implementation of the Residential Scheme would increase the number of net new workers on the site by 2,377 and introduce approximately 2,757 residents to the area. About 62,100 gsf of shared residential open space (including 34,450 gsf of privately-owned publicly-accessible open space) would be provided throughout the site. Based on the City's estimated 2013 population of 825,111 residents, the Residential Scheme would increase the population to 827,488, negligibly decreasing the existing parkland to resident ratio by less than one tenth of a percent per 1,000 residents. Although the residential population on the site would be greater with implementation of the Residential Scheme, the increased demand on open space and recreational facilities would be similar to those discussed under the Office Scheme (refer to Impact PS-4a). The proposed project would also be required to pay the Downtown Park Fee (\$2 per net gsf of new office use, or about \$560,000), which contributes to the acquisition and development of new parkland in the City. Because the project would provide the required square footage of open space on the site (refer to Impact PS-3b), it is not expected that residents would need to seek open space opportunities elsewhere within the City, to such a degree that overuse of existing facilities would result. Therefore, the Residential Scheme would not increase the use of adjacent or nearby recreational facilities such that substantial physical deterioration of existing facilities would occur or be accelerated. Implementation of the Residential Scheme would result in a less-than-significant impact to parks and recreation facilities.

Impact PS-5a: Construction of open space and recreational facilities associated with the proposed project's Office Scheme would not result in a significant effect on the environment. (Less Than Significant)

Implementation of the Office Scheme would result in the construction of 44,600 gsf of open space within the project site, as part of the overall program of development analyzed in this EIR. The

potential construction-related impacts of development are discussed in the appropriate topical sections of the EIR (e.g., Sections, IV.D, Transportation and Circulation; IV.E, Noise; and IV.F, Air Quality) as part of the assessment of overall project impacts. In and of itself, the construction and operation of open space uses on the site would not result in a significant impact on the environment, and this would be less than significant.

Impact PS-5b: Construction of open space and recreational facilities associated with the proposed project's Residential Scheme would not result in a significant effect on the environment. (Less Than Significant)

Implementation of the Residential Scheme would result in the construction of 62,100 gsf of open space within the project site, as part of the overall program of development analyzed in this EIR. The potential construction-related impacts of development are discussed in the appropriate topical sections of the EIR (e.g., Sections, IV.D, Transportation and Circulation; IV.E, Noise; and IV.F, Air Quality) as part of the assessment of overall project impacts. In and of itself, the construction and operation of open space uses on the site would not result in a significant impact on the environment, and this impact would be less than significant.

Impact PS-6a: The proposed project's Office Scheme would not physically degrade existing recreational facilities. (Less Than Significant)

Recreational facilities adjacent to and near the project site attract citywide and regional visitors, as well as tourists due to the presence of nearby cultural amenities such as the San Francisco Museum of Modern Art, the Contemporary Jewish Museum, the Yerba Buena Center for the Arts, and others. These and other nearby City-serving recreational resources are designed and constructed to sustain high-volume, physical use due to their location in the urbanized Downtown area. In particular, Yerba

Buena Gardens attracts over 4.5 million visitors per year ⁴⁴ and would not be physically degraded by the incremental increased use associated with the 3,684 new workers and 2,084 new residents associated with implementation of the Office Scheme. Similarly, public plazas maintained by RPD such as Mint Plaza and Union Square and public plazas and open space areas along The Embarcadero attract a high volume of daily users, including Downtown residents, regional visitors, and tourists. The increased use of these facilities associated with the Office Scheme would not physically degrade these recreational facilities. Therefore, this impact would be less than significant. Also refer to Impact PS-4a.

Impact PS-6b: The proposed project's Residential Scheme would not physically degrade existing recreational facilities. (Less Than Significant)

Similar to the discussion above (Impact PS-6a), with implementation of the Residential Scheme, the increased demand associated with the 2,377 new workers and 2,757 new residents would not physically degrade existing recreational facilities within the vicinity of the site and this impact would be less than significant.

Library Services

Impacts to library services that would result from implementation of the Office and Residential Schemes are identified and discussed below.

Impact PS-7a: The proposed project's Office Scheme would not increase demand for library services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

⁴⁴ MJM Management Group, "MJMMG honored for 20 Years of improving San Francisco's Yerba Buena neighborhood," October 6, 2013. This document is available for review at mjmmg.com/mjmmg-honored-for-years-of-improving-san-franciscos-yerba-buena-neighborhood/.

The existing library branches near the project site, which include the Main Library and the Mission Bay Branch, would be able to meet the demand for library services generated by the up to 2,084 additional residents that would inhabit the site under the Office Scheme. The proposed project would not require construction of new or expanded library facilities beyond those already proposed or under construction under the Branch Library Improvement Program.

Impact PS-7b: The proposed project's Residential Scheme would not increase demand for library services to an extent that would result in substantial adverse impacts associated with the construction or alteration of facilities to provide such services. (Less Than Significant)

Similar to the discussion above under Impact PS-7a, the existing library branches near the project site would be able to meet the demand for library services generated by the up to 2,757 additional residents that would inhabit the site under the Residential Scheme. Impacts on library services would be less than significant.

Cumulative Impacts. This section discusses the cumulative impacts to SFFD, SFPD, RPD and SFPL services that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-PS-1: The proposed project's Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in adverse physical impacts associated with the provision of, or need for, new or physically altered governmental facilities, the construction of which could cause significant environmental effects, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, parks, and library services. (Less Than Significant)

Buildout of the proposed project, in conjunction with reasonably foreseeable projects, would increase overall demand for police protection, fire protection and emergency response, open space and recreation, and library services provided by the SFFD, SFPD, RPD and SFPL, respectively. This

analysis of the contribution of the project to cumulative public service impacts is based on consideration of the reasonably foreseeable future projects identified in **Table II-8**, Reasonably Foreseeable Projects in the Site Vicinity, in Chapter II, Project Description along with development anticipated as part of the Central SoMa Plan, formerly known as the Central Corridor Plan. The Central SoMa Plan is a draft plan that may allow for a large amount of development activity along a planned rail corridor in the vicinity of the project site. The Central SoMa Plan, if approved, would increase the number of housing units within the Plan Area by up to 11,715 new units and would create up to 46,960 new jobs, requiring the provision of additional public services.⁴⁵

Fire Protection and Emergency Response Services. The proposed project would add to the demand for fire response and emergency medical services within Battalion 3, but the cumulative contribution of the proposed project's impact with the reasonably foreseeable development projects would not be considerable. The SFFD has not identified a City-wide service gap, and the incremental increase in the demand for fire services as a result of the proposed project and reasonably foreseeable projects would not be beyond levels anticipated and planned for by the SFFD. In addition, an additional fire station (Station No. 4) is anticipated to be constructed within this service area, which is intended to serve the additional demand generated by population growth anticipated for this area of the City. The impacts associated with construction of this fire station were evaluated as part of the Mission Bay Subsequent EIR.⁴⁶ For these reasons, the proposed project's contribution to cumulative demand on fire and emergency medical services Citywide would not be cumulatively considerable.

Police Services. The proposed project would add to the demand for police services in the Southern District, but the cumulative contribution of the proposed project's impact with the reasonably

⁴⁵ San Francisco Planning Department, *Public Review Draft Central Corridor Plan*, April 2013. This document is available for review at www.sf-planning.org/index.aspx?page=2557 (accessed February 5, 2014).

⁴⁶ San Francisco Redevelopment Agency, *Addendum #7, Mission Bay Public Safety Building*, January 7, 2010. Redevelopment Agency Case No. ER #919-97. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

foreseeable development projects would not be considerable. The SFPD has not identified a City-wide service gap and is currently exploring redistricting options in order to ensure that this area of the City is adequately served by police service facilities. Redistricting efforts will also consider population growth anticipated for this area. The increase in anticipated residents as a result of the proposed project and reasonably foreseeable projects would not be beyond levels anticipated and planned for by the SFPD. For these reasons, the proposed project's contribution to cumulative demand on police services Citywide would not be cumulatively considerable.

Parks Services. The proposed project would add to the demand for parks and open space services within the vicinity, but the cumulative contribution of the proposed project's impact with the reasonably foreseeable development projects would not be considerable. The City is currently meeting or exceeding the established parkland to resident ratio established by the Sustainable Communities Index of 5.5 acres per 1,000 residents and each individual development project is responsible for providing a sufficient amount of on-site open space per the Planning Code. Current planning efforts for the provision of parks and open space, including Open Space 2100, will consider the City's need for parks and open space over the next 100 years and projected population growth would be factored into the planning framework. The increase in anticipated residents as a result of the proposed project and reasonably foreseeable projects would not be beyond levels anticipated and planned for by the RPD. For these reasons, the proposed project's contribution to cumulative demand on park services Citywide would not be cumulatively considerable. Also refer to Impact C-PS-2.

Library Services. The proposed project would add to the cumulative effects of other reasonably foreseeable development projects on library services and facilities, but the proposed project's contribution to these effects would not be considerable. The San Francisco library system has experienced an annual increase in use without a decline in service ratios or other performance

objectives.⁴⁷ Therefore, an additional increase in citywide population would likely not have a considerable impact on the library system. For these reasons, the proposed project's contribution to cumulative demand on library services Citywide would not be cumulatively considerable.

Impact C-PS-2: The proposed Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not contribute to cumulative effects related to recreational resources. (Less Than Significant)

Cumulative recreation demand would be met by existing adjacent parks and recreational facilities provided in Yerba Buena Gardens, as well as nearby City-owned parks and open spaces including Mint Plaza, Hallidie Plaza, Boeddeker Park, Gene Friend Recreation Center Park, Victoria Manalo Draves Park, and Union Square, and waterfront open space along The Embarcadero. In addition, park and open space acreage in this area of the City and along the waterfronts is proposed to be augmented as development projects such as Central SoMa, Mission Bay, and the Transit Center District Plan move toward approval or completion. Specifically, the Central SoMa project plans to include a new park on the block bordered by Bryant, Fifth, Brannan, and Sixth Streets, approximately 0.5 miles south of the site. Although these development projects would also increase the number of residents in the area, it is not anticipated that increased use, in combination with the provision of additional public spaces, would result in physical degradation of existing facilities.

Anticipated growth in the City-wide network of parks and open space has occurred as a result of the passage of the \$185 million 2008 Clean and Safe Neighborhood Parks General Obligation Bond, which focused on the development of new parks in the eastern portions of the City. To continue improvements to the City's parks and open space system, the City's 2012-2021 Capital Plan proposed a \$185 million Neighborhood Parks and Open Space General Obligation Bond, which was approved

⁴⁷ San Francisco Public Library, Friends of the San Francisco Public Library *Annual Report 2010-2011-2011/2012*, 2012. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

by voters in November 2012.⁴⁸ Overall, the City's Capital Plan proposes \$323 million in investment primarily for neighborhood parks. Development of new and upgraded parks and open space acreage as a result of these bond measures would improve the delivery of recreation programs, facilities, and services to a growing population in the City. For these reasons, the proposed project's contribution to cumulative demand on recreational facilities Citywide would not be cumulatively considerable.

⁴⁸ City and County of San Francisco, *Capital Plan Fiscal Years 2012-2021*, 2011. This document is available for review at onesanfrancisco.org/fina-fy-2012-2021-capital-plan/.

I. UTILITIES AND SERVICE SYSTEMS

This section discusses the potential effects of the proposed project on utility service systems, including water supply, distribution and treatment; wastewater and stormwater collection and treatment; and energy and natural gas supplies and infrastructure. Water and wastewater systems are provided by the San Francisco Public Utilities Commission (SFPUC) and energy and natural gas is provided by the Pacific Gas and Electric Company (PG&E). As described in the Utilities and Service Systems section of the Initial Study (pages 106 to 111), the proposed project could require or result in the construction of new water, stormwater or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and could require new or expanded water supply resources or entitlements. These potential effects are evaluated in this section of the EIR.

The Hydrology and Water Quality Section of the Initial Study (pages 129 to 135) found that impacts related to water quality, drainage, and stormwater management would be less than significant because flows from the project site would be adequately treated prior to discharge to the system. However, this section analyzes the proposed project in relation to existing infrastructure and capacity of the combined wastewater-stormwater system.

The Initial Study found that the proposed project would not result in significant adverse impacts associated with solid waste generation and waste diversion requirements (pages 109 to 110 of the Initial Study). The project site is also located in an area that is well served by telecommunications (i.e., telephone and data) systems and would continue to be served by existing systems under the proposed project (pages 146 through 147 of the Initial Study). Therefore, these topics are not discussed further in this section.

Environmental Setting

The following provides an overview of SFPUC and PG&E services and infrastructure. This section also presents an overview of the regulatory framework that governs the provision of each of these utility services.

Water

The following section provides an overview of SFPUC services related to the provision of water supplies and distribution. Information in this section is based on the SFPUC's *2010 Urban Water Management Plan*,¹ *2013 Water Availability Study*,² and communications with SFPUC staff.³ The information used in this analysis represents the best available data on SFPUC services.

The SFPUC provides water to approximately 2.5 million people in San Francisco, Santa Clara, Alameda, San Mateo, and Tuolumne Counties.⁴ The SFPUC's Regional Water System draws approximately 85 percent of its water from the upper Tuolumne River Watershed, collected in the Hetch Hetchy Reservoir in Yosemite National Park. The rest of the Regional Water System's water supply is drawn from local surface waters within the Alameda and Peninsula watersheds.

The upper Tuolumne River watershed is high in the Sierra Nevada Mountains, remote from human development and pollution. The California Department of Health Services has determined that this water is exempt from certain standard filtration requirements due to its relative purity. Hetch Hetchy water is protected in pipes and tunnels as it is conveyed to the Bay Area, requiring only primary disinfection and pH adjustment to control for corrosion in the pipelines. Small amounts of local water may be blended with Hetch Hetchy water. Water from the Alameda watershed is treated at the Sunol

¹ San Francisco Public Utilities Commission, *2010 Urban Water Management Plan for the City and County of San Francisco*, June 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

² San Francisco Public Utilities Commission, *2013 Water Availability Study for the City and County of San Francisco*, May 2013. This document is available for review at www.sfwater.org.

³ Personal communication with Joan Ryan, San Francisco Public Utilities Commission, City distribution Division – Water Enterprise, November 19, 2013.

⁴ San Francisco Public Utilities Commission *2010 Urban Water Management Plan for the City and County of San Francisco*, June 2011. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Valley Water Treatment Plant in Sunol, while water from the Peninsula Watershed is treated at the Harry Tracy Water Treatment Plant in San Bruno.

Three pipelines transport water from the Peninsula portion of the regional SFPUC facilities north to San Francisco: Sunset Supply Pipeline, Crystal Springs Pipelines, and San Andreas Pipelines. The local water system provides distribution and storage for water and fire protection within the City. This system includes 10 reservoirs, 8 water tanks, 18 pump stations, and approximately 1,250 miles of transmission lines and water mains within the City. SFPUC manages distribution of potable water through two systems: a low-pressure water main system provides water for domestic and commercial uses at about 1,000 gallons per minute (gpm), and a high-pressure system provides a dedicated water source for fire suppression at about 10,000 gpm.

Approximately 97 percent of the water provided to San Francisco is supplied by the SFPUC's Regional Water System. In San Francisco, total consumption and the per capita water use have been on a general decline since the mid-1970s. Factors contributing to these trends include changes to the mix of industrial and commercial businesses in the City, and changes in plumbing codes and conservation programs in part due to the severe droughts of 1967 to 1977 and 1987 to 1992. Customers within the City consumed about 71 million gallons per day (mgd) in 2010, but this was lower than expected due to factors including cool weather, water use reductions due to earlier dry years, and the economic downturn that resulted in decreased non-residential consumption. Residential users account for about 70 percent of the demand for retail water supplies, while commercial users account for about 30 percent of the demand. SFPUC forecasts that retail water demand within the City will only slightly increase over the 2010 to 2035 period, even though the household population of San Francisco is expected to increase by nearly 12 percent for the same period. The SFPUC anticipates that gross per capita consumption will decrease due to conservation programs.

The 2010 Urban Water Management Plan projects that during normal precipitation years the SFPUC will have adequate supplies to meet projected demand. However, during multiple dry years,

additional water sources will be required. To address this issue, the SFPUC initiated the multi-year Water System Improvement Program (WSIP) to rebuild and upgrade the water system. After certification of the Final Program EIR in 2008, the SFPUC adopted the phased WSIP option. The SFPUC is currently implementing the WSIP to provide improvements to its water infrastructure. During a multiple dry-year scenario, the SFPUC would rely upon additional conservation efforts, recycled water, and groundwater to meet demand. **Table IV.I-1** shows a comparison of projected supply and demand for normal, single-dry, and multiple-dry years.

If planned future water supply projects are not implemented, normal-year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during normal years, the SFPUC may import additional water from the system (subject to certain limitations and surcharges). If dry-year supply projects are not implemented, existing dry year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during dry years, the SFPUC may reduce system deliveries and impose customer rationing.

Water distribution facilities within the vicinity of the project site include 8-inch water lines beneath Mission, Fifth, Minna, Natoma, and Howard Streets. In addition, a 12-inch water main is located beneath Mission Street and a 24-inch water main is located beneath Howard Street. A 2-inch water line is located beneath portions of Mary Street.⁵

⁵ BKF Engineers, *Basement Utility Plan for the 5M Project*, May 6, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Table IV.I-1: Projected Supply and Demand Comparison

Year	2015					2020					2025					2030					2035				
Year Type	N	S	1	2	3	N	S	1	2	3	N	S	1	2	3	N	S	1	2	3	N	S	1	2	3
Total Retail Demand	83.7	83.7	83.7	83.7	83.7	83.4	83.4	83.4	83.4	83.4	82.4	82.4	82.4	82.4	82.4	82.5	82.5	82.5	82.5	82.5	84.2	84.2	84.2	84.2	84.2
Total Existing Retail Supply	83.5	83.5	83.5	82.0	82.0	83.5	83.5	83.5	82.0	82.0	83.5	83.5	83.5	82.0	82.0	83.5	83.5	83.5	82.0	82.0	83.5	83.5	83.5	82.0	82.0
Surplus/(Deficit)	(0.2)	(0.2)	(0.2)	(1.7)	(1.7)	0.1	0.1	0.1	(1.4)	(1.4)	1.1	1.1	1.1	(0.4)	(0.4)	1.0	1.0	1.0	(0.5)	(0.5)	(0.7)	(0.7)	(0.7)	(2.2)	(2.2)
Total Existing and Future Retail Supply	83.5	83.5	83.5	82.0	82.0	88.3	88.3	88.3	86.8	86.8	90.3	90.3	90.3	88.8	88.8	90.3	90.3	90.3	88.8	88.8	90.3	90.3	90.3	88.8	88.8
Surplus/(Deficit)	(0.2)	(0.2)	(0.2)	(1.7)	(1.7)	4.9	4.9	4.9	3.4	3.4	7.9	7.9	7.9	6.4	6.4	7.8	7.8	7.8	6.3	6.3	6.1	6.1	6.1	4.6	4.6

Year Types:

N = Normal Year

S = Single Dry Year

1, 2, and 3 = Multiple Dry Years

Source: San Francisco Public Utilities Commission, *Water Availability Study*, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Wastewater and Stormwater

The project site is served by San Francisco's combined sewer system, which collects sanitary sewage and stormwater in a single, combined system of pipes, and treats the combined wastewater in the same treatment plants. The SFPUC owns and operates three wastewater treatment facilities for the City and County of San Francisco: the Oceanside Treatment Plant, the Southeast Treatment Plant, and the North Point Wet Weather Facility. These facilities combined can treat up to 575 mgd of combined wastewater and stormwater runoff.⁶ The project site is served primarily by the Southeast Treatment Plant, which treats an average dry weather flow of about 63 million gallons a day and can treat up to 250 million gallons a day when it rains. The SFPUC oversees San Francisco's wastewater and stormwater collection and conveyance infrastructure. The Department of Public Works operates in conjunction with the SFPUC, and is responsible for the system's maintenance and repairs. San Francisco contains almost 976 miles of sewers, 36 overflow points, 3 currently functioning outfalls, and 27 pump stations and storage tanks along the City's coastline.⁷

During wet weather, the capacity at the Southeast Plant is supplemented by the North Point Wet-Weather Facility and a series of storage/transport boxes⁸ located around the perimeter of the City. If wet-weather flows exceed the capacity of the overall system, the excess (primarily stormwater) is discharged from one of the 36 combined sewer overflow structures located along the waterfront. In 2010, the SFPUC finalized work on the Sewer System Master Plan (SSMP) to develop a long-term strategy to address the City's sanitary sewage and stormwater needs. Projects identified in the SSMP will undergo separate CEQA review. Concurrent with this master planning effort, the SFPUC allocated \$150 million to an Interim Capital Improvement Program to fund approximately 40 critical

⁶ San Francisco Public Utilities Commission, *San Francisco Sewer System Master Plan*, May 2010. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

⁷ Ibid.

⁸ The storage/transport boxes provide treatment consisting of settling and screening of floatable materials inside the boxes. This treatment is equivalent to primary treatment at the wastewater treatment plants.

projects addressing aging collection, conveyance and treatment infrastructure, odor emission controls, and potential flooding in various parts of the City.

San Francisco's combined sanitary sewage-stormwater system operates under wastewater National Pollutant Discharge Elimination System (NPDES) permits.⁹ The 2008 Bayside Permit (NPDES Permit No. CA0037664), issued and enforced by the San Francisco Bay Regional Water Quality Control Board (Water Board) for the Southeast Plant, the North Point Wet-Weather Facility, and the Bayside Wet-Weather Transport/Storage and Diversion Structures, states that the treatment process at these facilities meets the minimum treatment specified by the U.S. Environmental Protection Agency (USEPA) Combined Sewer Overflow Policy I50 Federal Register 18688, as of April 11, 1994. Wastewater flows from the main and peripheral project sites are also governed by the 2008 San Francisco Bay Publicly Owned Treatment Works and Industrial Mercury Watershed Permit (NPDES Permit No. 0038849) that implements the San Francisco Bay Mercury Total Maximum Daily Load Requirements.

Sewer laterals within the City are a minimum of 6 inches for residential uses and 8 inches for commercial uses. Wastewater and stormwater distribution facilities within the vicinity of the project site include 12-, 14-, 15- and 18-inch lines in various locations beneath Mission, Fifth, Natoma, and Howard Streets. There are 5-foot, 3-inch and 7-foot, 6-inch reinforced concrete pipes beneath Mission and Howard Streets,¹⁰ respectively, that convey sewer and stormwater flows to the Berry Street Transport Storage Box.

⁹ The 2009 Oceanside Permit (NPDES Permit No. CA.37681) is issued and enforced by both the Water Board and the USEPA since the Oceanside Water Pollution Control Plant discharges through the Southwest Ocean Outfall into federally regulated waters of the Pacific Ocean.

¹⁰ BKF Engineers, *Basement Utility Plan for the 5M Project*, May 6, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Wastewater and stormwater flows in the vicinity of the project site flow to the Berry Street Transport Storage Box and the Box is pumped by the Channel Pump Station to the Southeast Plant for treatment. The age and capacity of the collection system is not known at this time and the system generally does not have any capacity issues during dry weather flows. However, street level flooding can occur during wet weather events.¹¹

Energy and Natural Gas

Electrical and natural gas service in San Francisco is provided by PG&E. PG&E provides natural gas and electricity to approximately 14 million people throughout a 70,000 square mile service area in Northern and Central California. PG&E's service territory stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. PG&E provides electricity to over 4.9 million customers and natural gas to over 3.9 million customers. Under deregulation, other companies may also provide electricity, but PG&E delivers the service.

The California Energy Commission (CEC) indicates that San Francisco County consumed 5,837 gigawatt hours (GWh) of electricity in 2011, slightly down from 5,854 GWh in 2010.¹² In the area served by PG&E, total consumption in 2011 was approximately 105,828 GWh, a decrease compared to 107,080 GWh in 2010.¹³

The California Independent System Operator (California ISO) is charged with managing the flow of electricity along the State's open market wholesale power grid. The California ISO Energy Demand Forecast (2008–2018) estimates that residential, commercial, and industrial sectors represented 85 percent of statewide electricity demand in 2008, while the mining sector represented 2 percent.

¹¹ Personal communication with Kent Eichman, San Francisco Public Utility Commission, Collection System Division – Wastewater Enterprise. October 15, 2013.

¹² State of California Energy Commission, California Energy Consumption Data Management System. This document is available at www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed November 15, 2013).

¹³ Ibid.

Regulatory Framework

The following section describes applicable federal, State and local policies and regulations that pertain to water and wastewater.

Federal Clean Water Act. The Federal Clean Water Act amendments of 1972 prohibit the discharge of pollutants to navigable waters of the United States from a point source, unless the discharger has a National Pollutant Discharge Elimination System (NPDES) permit. The USEPA has delegated certain authority to the State of California.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Act provides the basis for water quality regulation in California, and establishes the authority of the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards. The Act also authorizes waste discharge requirements for municipal wastewater treatment facilities through the NPDES program. The State Water Board grants and administers NPDES permits under a provision of the Act, which established effluent limitations and water quality requirements for wastewater plant discharges. In 2000, the Regional Water Boards began to require new construction to include “post-construction controls” in project design, and in December 2010, projects within the jurisdiction of NPDES permittees, are required to implement additional post-construction stormwater management requirements for new development and redevelopment projects.

California Senate Bill 610 (SB 610). California Senate Bill 610 (SB 610) requires that water retailers demonstrate whether their water supplies are sufficient to meet the projected demand of certain large development projects. A Water Supply Assessment (WSA) under SB 610 is required if a project meets one of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;

- A hotel or motel, or both, having more than 500 rooms;
- An industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects specified in this subdivision;
or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Urban Water Management Planning Act. In 1983, the California Legislature enacted the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The California Urban Water Management Planning Act, Division 6, Part 2.6 of the California Water Code, requires that an understanding of urban water demands and efficient use of water are to be actively pursued by water suppliers. Section 10610.4 of the Act requires water suppliers to actively pursue efficient use of available water supplies, and Section 10620 establishes the requirement of every urban water supplier to prepare and adopt an urban water management plan (UWMP). The Act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service, sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Act describes the contents of the UWMP and how urban water suppliers should adopt and implement the plans. The plan must be updated at least every five years on or before December 31 in years ending in five and zero. The SFPUC prepared the 2010 Urban Water Management Plan as required by the California Water Code, which was adopted on June 14, 2011.

San Francisco Public Utilities Commission Water Pollution Prevention Program. The City has a Water Pollution Prevention Program to avoid and minimize pollutants entering the City's sewer system and storm drains, thereby reducing pollutant loading to San Francisco Bay and the Pacific Ocean. The program includes education components for businesses, residents, and City employees. The program also includes several initiatives that are meant to reduce water pollution, including initiatives to

reduce toxic chemicals used for landscaping, reduce dental mercury, reduce fats/oils/greases, minimize construction-related water pollution, minimize stormwater pollution, minimize pet-waste-related water pollution, dispose of medications properly, and support green design and operation measures for businesses and households. Articles 4, 4.1, and 4.2 of the San Francisco Public Works Code contain many components of the program.

The City has been working for many years to reduce fats, oil, and grease in the wastewater stream from commercial and residential kitchens, especially from restaurants. These materials clog pipes and treatment processes. The City has recently adopted a new fats, oil, and grease ordinance, which would strengthen Article 4.1.

Stormwater Design Guidelines. The *San Francisco Stormwater Design Guidelines* were developed by the SFPUC and the Port of San Francisco in 2010 (Ordinance No. 83-10).¹⁴ The guidelines set forth a planning process for stormwater management and guidance for developing integrated, Low Impact Design (LID) solutions using site- and neighborhood-scale Best Management Practices (BMPs).¹⁵ Per requirements of the *Stormwater Design Guidelines*, this project must achieve Leadership in Energy and Environmental Design (LEED) Sustainable Sites (SS) c6.1, “Stormwater Design: Quantity Control.” Therefore, the proposed project must implement a stormwater management approach that reduces existing stormwater runoff flow rate and volume by 25 percent for a two-year 24-hour design storm.

San Francisco Residential Water Conservation Ordinance. San Francisco’s Residential Water Conservation Ordinance generally requires a homeowner to install water conservation equipment

¹⁴ San Francisco Public Utilities Commission and Port of San Francisco *San Francisco Stormwater Design Guidelines*, effective May 22, 2010; adopted January 12, 2010. This document is available for review at sfwater.org/index.aspx?page=446.

¹⁵ Low Impact Design approaches use stormwater management solutions that promote the use of ecological and landscape-based systems that mimic pre-development drainage patterns and hydrologic processes by increasing retention, detention, infiltration, and treatment of stormwater at its source.

(such as low-flow showerheads, faucets, and toilets) prior to selling a home or making a major improvement to the home.¹⁶ In 2008, the City adopted the San Francisco Green Building Ordinance. This requires green building practices and LEED certification for new residential and commercial buildings in the City. The Ordinance requires residential buildings over 75 feet to be LEED Certified and earn specific credits addressing water efficiency, stormwater management, and construction waste management (designated WEc1.1, WEc3.1, MRc2.1, SSc6.1 and SSc6.2). The water conservation requirements (WEc1.1) seek to reduce the quantity of water used.

Reclaimed Water Use Ordinances. In 1991, the SFPUC sponsored and the San Francisco Board of Supervisors passed Reclaimed Water Use Ordinances generally requiring development projects over 40,000 square feet to build and operate a reclaimed water system within the buildings and a reclaimed water irrigation system for the landscaping. Non-potable water must be used for soil compaction and dust control activities during project construction as required by Ordinance 175-91.

Impacts and Mitigation Measures

Significance Criteria. Implementation of the proposed project would have a significant effect on utilities if they would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

¹⁶ San Francisco Department of Building Inspection, *What You Should Know about San Francisco's Residential Energy and Water Conservation Requirements*, July 2009. This document is available for review at www.sfdbi.org/Modules/ShowDocument.aspx?documentid=124.

- Have insufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements; or
- Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Approach to Analysis. This section provides an analysis of the project's impacts on water supply and distribution facilities, wastewater collection and treatment facilities, and electricity and natural gas services. Regarding stormwater, this section analyzes the proposed project in relation to the capacity of the combined sanitary sewage-stormwater system. The Hydrology and Water Quality Section of the Initial Study (pages 129 to 135) found that impacts related to water quality, drainage, and stormwater management would be less than significant.

Impact Evaluation. This section discusses the impacts to water, wastewater and stormwater, and electricity and natural gas service systems associated with implementation of the proposed project.

Water Services

Impacts to water supplies and systems that would result from implementation of the Office and Residential Schemes are identified and discussed below. Water demand calculations for residential uses are typically higher than office uses; therefore, the Water Supply Assessment prepared for the proposed project by the SFPUC utilizes demand calculations for the Residential Scheme.

Impact UT-1a: Implementation of the Office Scheme would not require new or expanded water supply resources or entitlements or require construction of new water treatment facilities. (Less Than Significant)

As previously discussed, California Senate Bill 610 requires that water retailers demonstrate whether their water supplies are sufficient to meet the projected demand of certain large development

projects. In accordance with SB 610, the SFPUC prepared a Water Supply Assessment (WSA) for the proposed project.¹⁷ The WSA relies on water demand calculations prepared for the proposed project that synthesize project uses and site coverage.¹⁸ Water demand was calculated using the SFPUC Non-Potable Water Calculator. Under the Office Scheme, indoor water demand in gallons per day (gpd) would be as follows:

- Commercial water demand: 15,040 gpd
- Multi-Family water demand: 99,121gpd
- HVAC/Cooling water demand: 36,214 gpd

In addition, the total annual irrigation demand would be 10,966 gallons per year.

The total annual water demand of the Office Scheme would be 54,904,000 gallons per year (or an average of 150,422 gpd, or 0.150 million gpd). **Table IV.I-2** shows the demand of the proposed Office Scheme relative to the total SFPUC retail demand.

Table IV.I-2: Projected Office Scheme Water Demand Relative to Total SFPUC Retail Demand

	2015	2020	2025	2030	2035
Total SFPUC Retail Demand (mgd)	83.7	83.4	82.4	82.5	84.2
Proposed Project Demand	–	0.05	0.15	0.15	0.15
Portion of Total Retail Demand (percent)	–	0.06	0.18	0.18	0.18

mgd = million gallons per day

Source: San Francisco Public Utilities Commission, *Water Supply Assessment for the 5M Project*, August 27, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁷ San Francisco Public Utilities Commission, *Water Supply Assessment for the 5M Project*, August 27, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

¹⁸ LSA Associates, Inc., *Water Demand and Wastewater Discharge Memorandum for the 5M Project*, August 21, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

The WSA determined that, during normal years, single dry years and multiple dry years, the SFPUC would have sufficient water supplies to serve the proposed project. With the addition of planned retail supplies, the SFPUC would also have sufficient water supplies available to serve all retail customers, including the demands of the proposed project, existing customers, and foreseeable future development through the year 2035.¹⁹

As previously discussed, water supplies delivered from Hetch Hetchy to the City through SFPUC pipelines require minimal treatment. Existing water treatment infrastructure has adequate capacity to serve the project. Potential impacts of the proposed project associated with extension of water supply infrastructure in the vicinity of the site are discussed below (Impact PS-2a).

Although implementation of the Office Scheme would incrementally increase the demand for water in San Francisco, the SFPUC would meet the estimated increase in demand within its anticipated water supply. New or expanded water supply resources or entitlements or construction of new water treatment facilities would not be required to serve the proposed project. This impact would be less than significant.

Impact UT-1b: Implementation of the Residential Scheme would not require new or expanded water supply resources or entitlements or require construction of new water treatment facilities. (Less Than Significant)

As previously discussed, the Residential Scheme would have a higher water demand rate than the Office Scheme and the WSA prepared by the SFPUC used this higher demand rate to determine the project's demand for water supplies. Indoor water demand for the Residential Scheme would be as follows:

¹⁹ San Francisco Public Utilities Commission, *Water Supply Assessment for the 5M Project*, August 27, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

- Commercial water demand: 11,126 gpd
- Multi-Family water demand: 131,113 gpd
- HVAC/Cooling water demand: 36,214gpd

In addition, the total annual irrigation demand would be 11,652 gallons per year.

The total annual water demand of the Residential Scheme would be 65,152,900 gallons per year (or an average of 178,501 gpd, or 0.179 million gpd). **Table IV.I-3** shows the demand of the proposed Residential Scheme relative to the total SFPUC retail demand.

Table IV.I-3: Projected Residential Scheme Water Demand Relative to Total SFPUC Retail Demand

	2015	2020	2025	2030	2035
Total SFPUC Retail Demand (mgd)	83.7	83.4	82.4	82.5	84.2
Proposed Project Demand	–	0.06	0.18	0.18	0.18
Portion of Total Retail Demand (percent)	–	0.07	0.22	0.22	0.21

mgd = million gallons per day

Source: San Francisco Public Utilities Commission, *Water Supply Assessment for the 5M Project*, August 27, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Similar to the discussion above for the Office Scheme (Impact PS-1a), the WSA determined that, during normal years, single dry years and multiple dry years, the SFPUC would have sufficient water supplies to serve the proposed project. With the addition of planned retail supplies, the SFPUC would also have sufficient water supplies available to serve all retail customers, including the demands of the proposed project, existing customers, and foreseeable future development through the year 2035.²⁰

²⁰ San Francisco Public Utilities Commission, *Water Supply Assessment for the 5M Project*, August 27, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Although implementation of the Residential Scheme would incrementally increase the demand for water in San Francisco, the SFPUC would meet the estimated increase in demand within its anticipated water supply. New or expanded water supply resources or entitlements or construction of new water treatment facilities would not be required to serve the proposed project. This impact would be less than significant.

Impact UT-2a: Implementation of the Office Scheme would not require the construction of new water delivery infrastructure to serve the project, the construction of which could cause significant environmental effects. (Less Than Significant)

Water delivery within the vicinity of the project site is provided by 8-inch water lines beneath Mission, Fifth, Minna, Natoma, and Howard Streets. In addition, a 12-inch water main is located beneath Mission Street and a 24-inch water main is located beneath Howard Street. A 2-inch water line is located beneath portions of Mary Street.²¹ New 8-inch water lines are proposed as part of the project lines located within the project site that would connect to the main line beneath Howard Street. As part of the standard permit review process, the project sponsor would be required to submit hydraulic calculations to the SFPUC to confirm that the existing water distribution system is appropriately sized to accommodate the project. The installation of the new water lines would require excavation, trenching, soil movement, and other activities typical of construction of development projects in San Francisco. Because the activities required to install the new water lines would be similar to those associated with construction of the project, they would not result in environmental impacts beyond those impacts related to noise, dust generation, and stormwater management that are discussed in this EIR (see Section IV.E, Noise; Section IV.F, Air Quality; and Chapter VI, Other CEQA Considerations). The construction of the new water lines would therefore result in less-than-significant environmental effects.

²¹ BKF Engineers, *Basement Utility Plan for the 5M Project*, May 6, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Impact UT-2b: Implementation of the Residential Scheme would not require the construction of new water delivery infrastructure to serve the project, the construction of which could cause significant environmental effects. (Less Than Significant)

Implementation of the Residential Scheme would result in similar impacts to existing water infrastructure as those identified for the Office Scheme (Impact UT-2a). Installation of new water lines and connections to existing facilities would be similar to the Office Scheme and would not result in significant impacts.

Wastewater and Stormwater Services

Impacts to wastewater and stormwater treatment and collection systems that would result from implementation of the Office and Residential Schemes are identified and discussed below.

Impact UT-3a: Implementation of the Office Scheme would not exceed treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new stormwater or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less Than Significant)

Wastewater and stormwater flows in the vicinity of the project site flow to the Berry Street Transport Storage Box and the Box is pumped by the Channel Pump Station to the Southeast Plant for treatment. The City's combined stormwater-sewer system accommodates stormwater runoff volumes in addition to wastewater volumes, which contribute greatly to the total volume in the system. The project site is currently covered entirely with impervious surfaces; the proposed project would not create any additional impervious surfaces, thus resulting in little or no adverse effect on the total storm water volume discharged through the combined sewer system.

In addition, the San Francisco Stormwater Design Guidelines require project applicants proposing development or redevelopment projects disturbing more than 5,000 square feet of ground to provide on-site stormwater management. The proposed project would result in the disturbance of

approximately 4 acres of ground surface and would therefore be required to comply with the Stormwater Design Guidelines. The Stormwater Design Guidelines will require the project to reduce runoff volume and the peak runoff rate through use of LID approaches and BMPs such as rainwater reuse, landscape planters, swales, rain gardens, and green roofs. The proposed D4D includes measures to reduce stormwater runoff from the site, including installation of permeable pavements, biofiltration planters, green roofs, cistern and rainwater harvesting systems, and stormwater parklets to prevent ponding. Implementation of these measures would reduce stormwater volumes discharged from the project site. Therefore, stormwater flows from the project site would not adversely affect the capacity of the Southeast Treatment Plant.

Approximately 90 percent of water supplied is discharged as wastewater into the sewer system. As such, the estimated wastewater discharge for the Office Scheme would be 0.135 mgd. The Southeast Treatment Plant currently treats an average dry weather flow of about 63 mgd. The wastewater generated by the Office Scheme would comprise about 0.21 percent of the dry weather capacity of the plant; the Southeast Treatment Plant would accommodate this demand.

The proposed project would meet the wastewater pre-treatment requirements of the SFPUC, as required by the San Francisco Industrial Waste Ordinance in order to meet Water Board requirements. The proposed project would have a less-than-significant impact related to wastewater treatment requirements and wastewater and stormwater treatment infrastructure.

Wastewater and stormwater distribution facilities within the vicinity of the project site include 12-, 14-, 15- and 18-inch lines in various locations beneath Mission, Fifth, Natoma, and Howard Streets. There are 5-foot, 3-inch and 7-foot, 6-inch reinforced concrete pipelines beneath Mission and Howard Streets,²² respectively that convey sewer and stormwater flows to the Berry Street Transport Storage Box. The proposed project would install new 8-inch lines within the project site to serve the proposed

²² Ibid.

project and would connect to existing lines beneath Howard Street. The age and capacity of the collection system is not known at this time and the system generally does not have any capacity issues during dry weather flows. However, street level flooding has the potential to occur during wet weather events.²³ The potential for such flooding would be minimized with the preparation of a sewer flow projection study to verify that the existing sewer system is properly sized to meet the projected increase in wastewater generation on the project site, and the possible adjustment of existing sewer infrastructure to accommodate increased flows. This study would be prepared as part of the standard permit review process.

The installation of new sewer and stormwater lines would require excavation, trenching, soil movement, and other activities typical of construction of development projects in San Francisco. Because the activities required to install new sewer and stormwater lines would be similar to those associated with construction of the project, they would not result in environmental impacts beyond those impacts related to noise, dust generation, and stormwater management that are discussed in this EIR (see Section IV.E, Noise; Section IV.F, Air Quality; and Chapter VI, Other CEQA Considerations). The construction of the new sewer and stormwater lines would therefore result in less-than-significant environmental effects.

Impact UT-3b: Implementation of the Residential Scheme would not exceed treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new stormwater or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less Than Significant)

Implementation of the Residential Scheme would result in similar impacts to existing stormwater and wastewater infrastructure as those identified for the Office Scheme (Impact UT-3a). Impervious surface coverage on the site would be similar to the Office Scheme and the same stormwater

²³ Personal communication with Kent Eichman, San Francisco Public Utility Commission, Collection System Division – Wastewater Enterprise, October 15, 2013.

reduction measures would be implemented by the D4D. Proposed sewer infrastructure installed as part of the project would also be the same. Wastewater generated by the Residential Scheme would be slightly greater than the Office Scheme, at 0.161 mgd; however this would only represent about 0.25 percent of the dry weather capacity of the Southeast Treatment Plant. Similar to the Office Scheme, the Residential Scheme would not require or result in the construction of new sewer or stormwater facilities that could cause significant environmental effects.

Electricity and Natural Gas Services

Impact UT-4a: Implementation of the Office Scheme would not increase demand for electricity and natural gas to an extent that the demand for these resources would substantially increase, requiring the construction of new facilities. (Less Than Significant)

Development of the proposed project would occur in a location that currently has electricity and gas services. It is anticipated that electricity and gas lines would need to be installed or relocated along the streets that border the project site. The installation or relocation of electricity and gas lines would occur within areas already subject to widespread ground disturbance and would not cause significant environmental effects related to construction activities that have not already been identified in this EIR.

As discussed on pages 146 to 147 of the Initial Study, development of the mixed use project would not result in the consumption of large amounts of energy. Operation of the project would increase demand for electric service at the site, but not to levels that could not be met by PG&E. The PG&E Electric Planning Department monitors load growth at each substation in the City, and projected loads are forecasted based on load trends and known projects to accommodate the system growth. Therefore, electricity and natural gas supplies that would serve the proposed project are expected to be adequate.

As described in the D4D document, the proposed project includes sustainability standards and guidelines which are designed to reduce the energy demand of the proposed buildings and uses and

to ensure compliance with the City's Sustainability Plan and Climate Action Plan. In addition, the project sponsor's goal is to achieve the equivalent of LEED Gold (or equivalent) certification. The San Francisco Green Building Ordinance requires LEED Gold certification for large commercial buildings and major renovations, and the LEED Silver certification for multi-family residential buildings. Per City requirements, the City would also review project development plans prior to project approval to ensure that California Code of Regulations Title 24 energy conservation and efficiency standards are met and incorporated into project design. Therefore, the proposed project is not expected to increase the demand for energy or natural gas to an extent that these services could not be provided to the site by existing facilities and the project would have a less-than-significant impact on electricity and gas services.

Impact UT-4b: Implementation of the Residential Scheme would not increase demand for electricity and natural gas to an extent that the demand for these resources would substantially increase, requiring the construction of new facilities. (Less Than Significant)

Similar to the Office Scheme (refer to Impact UT-4a), implementation of the Residential Scheme would have a less-than-significant impact on electricity and gas services.

Cumulative Impacts. This section discusses the cumulative impacts to water, wastewater, and stormwater systems, and gas and electricity services that could result from the project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-UT-1: The proposed Office Scheme or Residential Scheme, combined with past, present, and reasonable foreseeable future projects, would not result in adverse physical impacts associated with utilities and service systems. (Less Than Significant)

This analysis of the contribution of the project to cumulative public service impacts is based on consideration of the reasonably foreseeable future projects identified in **Table II-8**, Reasonably Foreseeable Projects in the Site Vicinity, in Chapter II, Project Description, along with development anticipated as part of the Central SoMa Plan, formerly known as the Central Corridor Plan.

Buildout of the proposed project, in conjunction with reasonably foreseeable projects, would increase overall demand for water services within the City. However, the SFPUC has determined through its 2013 Water Availability Study, that with implementation of the WSIP and its conservation efforts and associated water infrastructure improvements, the proposed project and other reasonably foreseeable developments in the City are expected to be adequately served by existing water supply resources. New or expanded water facilities would not be required as a result of construction of the proposed project. Therefore, the proposed project's contribution to significant cumulative impacts would not adversely affect the City's water supply and would not be cumulatively considerable.

The proposed project, in conjunction with reasonably foreseeable projects, would also increase the demands on water infrastructure and combined stormwater and wastewater infrastructure and treatment facilities. However, the proposed project's contribution to increased impervious service area is minimal and would not substantially affect stormwater or wastewater facilities. As with the proposed project, reasonably foreseeable cumulative projects would also need to meet the wastewater pre-treatment requirements of the SFPUC and Water Board. In addition, similar to the proposed project, other large-scale development projects would be required to verify that existing water, wastewater, and stormwater infrastructure can accommodate increased demand, or contribute to any needed upgrades to existing facilities. Therefore, the cumulatively considerable contribution to cumulative impacts on the treatment of and capacity of stormwater and wastewater treatment facilities and infrastructure would not be cumulatively considerable.

All new development projects within the City are required to comply with applicable requirements of the City's Sustainability Plan, Climate Action Plan, Green Building Ordinances, and Title 24 requirements. Therefore, the proposed project, in conjunction with other foreseeable projects, would not adversely affect energy and natural gas services or infrastructure and this impact would not be cumulatively considerable.

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V. ALTERNATIVES

The *CEQA Guidelines* require the analysis of a reasonable range of alternatives to the proposed project or to the location of the project, which would feasibly attain most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project (*CEQA Guidelines* Section 15126.6). The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit informed public participation and an informed and reasoned choice by the decision-making body (*CEQA Guidelines* Section 15126.6(f)).

CEQA generally defines “feasible” to mean the ability to be accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors. The following factors may also be taken into consideration when assessing the feasibility of alternatives: site suitability; economic viability; availability of infrastructure; General Plan consistency; other plans or regulatory limitations; jurisdictional boundaries; and the ability of the proponent to attain site control (*CEQA Guidelines* Section 15126.6(f)(1)).

CEQA also requires that a No Project Alternative be evaluated (*CEQA Guidelines* Section 15126.6(e)); the analysis of the No Project Alternative is based on the assumption that the project would not be approved. In addition, an environmentally superior alternative must be identified among the alternatives considered. The environmentally superior alternative is generally defined as the alternative that would result in the least adverse environmental impacts to the project sites and affected environment. If the No Project Alternative is found to be the environmentally superior alternative, the EIR must identify an environmentally superior alternative among the other alternatives.

CEQA Guidelines Section 15126.6(c) also requires an EIR to identify and briefly discuss any alternatives that were considered by the Lead Agency but were rejected as infeasible during the scoping process. In identifying alternatives, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the basic project objectives. Those alternatives that would have

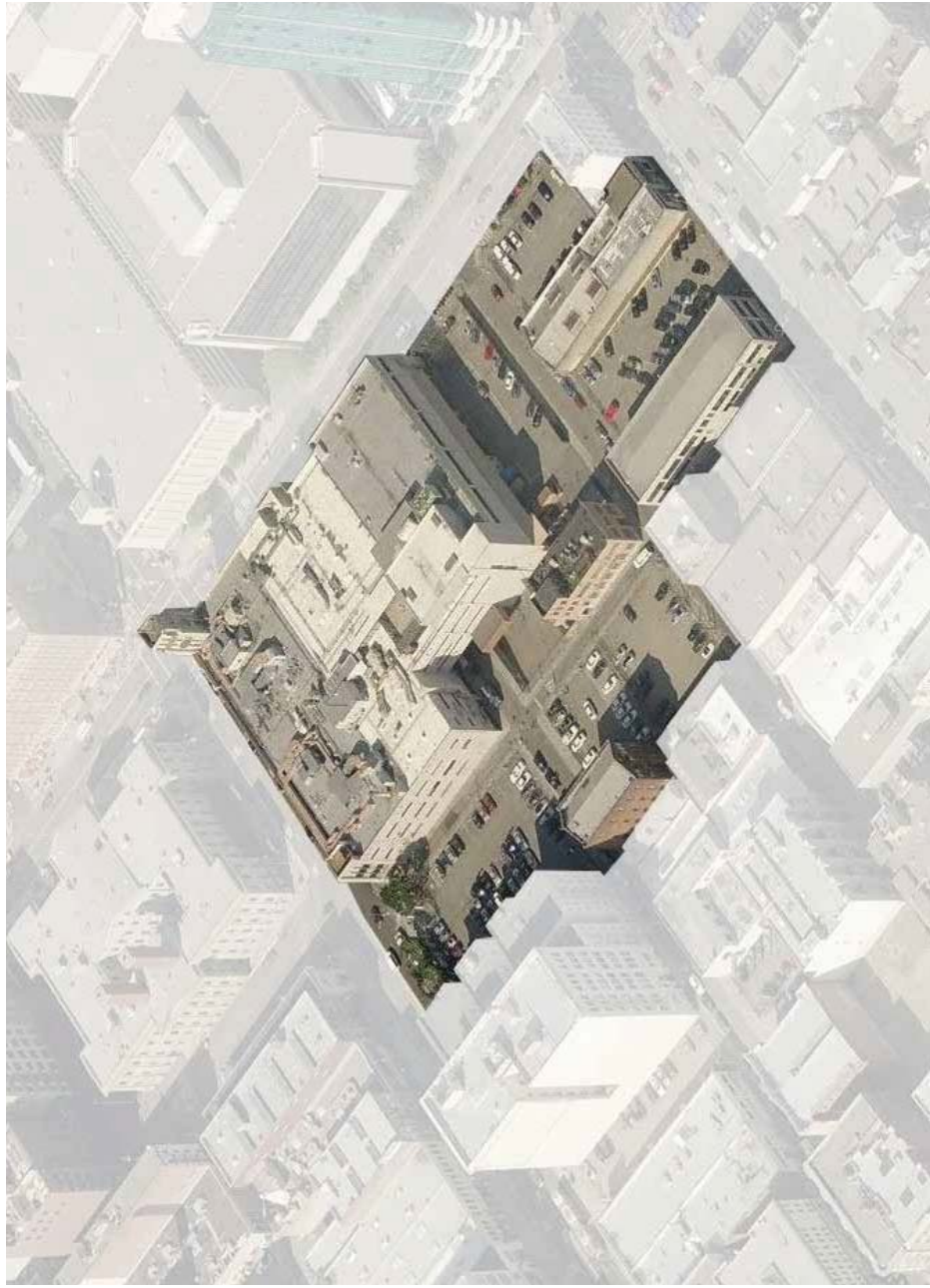
impacts identical to or more severe than the proposed project, or that would not meet most of the project objectives, were rejected from further consideration.

This chapter identifies alternatives to the proposed project and discusses environmental impacts associated with each alternative. For the purposes of this analysis, the “proposed project” assumes development of either the Office or Residential Scheme, given that the two schemes would generally result in the same impacts, unless otherwise specifically noted. Alternatives were selected that would reduce identified impacts of the proposed project. The proposed project would result in significant unavoidable impacts related to cultural and paleontological resources; transportation and circulation; and air quality. Impacts related to transportation and circulation are discussed in more detail than other topics due to the complex nature of the traffic, pedestrian, transit, bicycle, and loading issues surrounding the project.

This chapter compares four alternatives, as summarized below:

- The **No Project Alternative**, under which the project site would not be redeveloped in the short-term, and would remain generally in its existing condition.
- The **Code Compliant Alternative**, under which the project site would be developed with a mix of land uses, consistent with the existing zoning and Planning Code regulations.
- The **Unified Zoning Alternative**, under which the southwest corner of Howard and Fifth Street (the H-1 parcel) would be rezoned from Residential Service District (RSD) to the Downtown Support District (C-3-S) and a mix of uses would be developed on the site.
- The **Preservation Alternative**, under which the Camelline Building (430 Natoma Street), a historical resource under CEQA, would be preserved and a mixed-use building program similar to that of the project (about 1.7 million square feet) would be implemented in a configuration differing from the project in response to preserving the Camelline building on parcel N-1.

These alternatives are depicted in **Figures V-1** through **V-4**. **Table V-1** compares key elements of the three alternatives that would result in further development (i.e., the Code Compliant, Unified Zoning, and Preservation Alternatives); **Table V-2** provides a summary of the buildings proposed under each of these alternatives.



AERIAL VIEW OF NO PROJECT ALTERNATIVE



SF ZONING MAP



SF HEIGHT/BULK MAP

FIGURE V-1

NOT TO SCALE

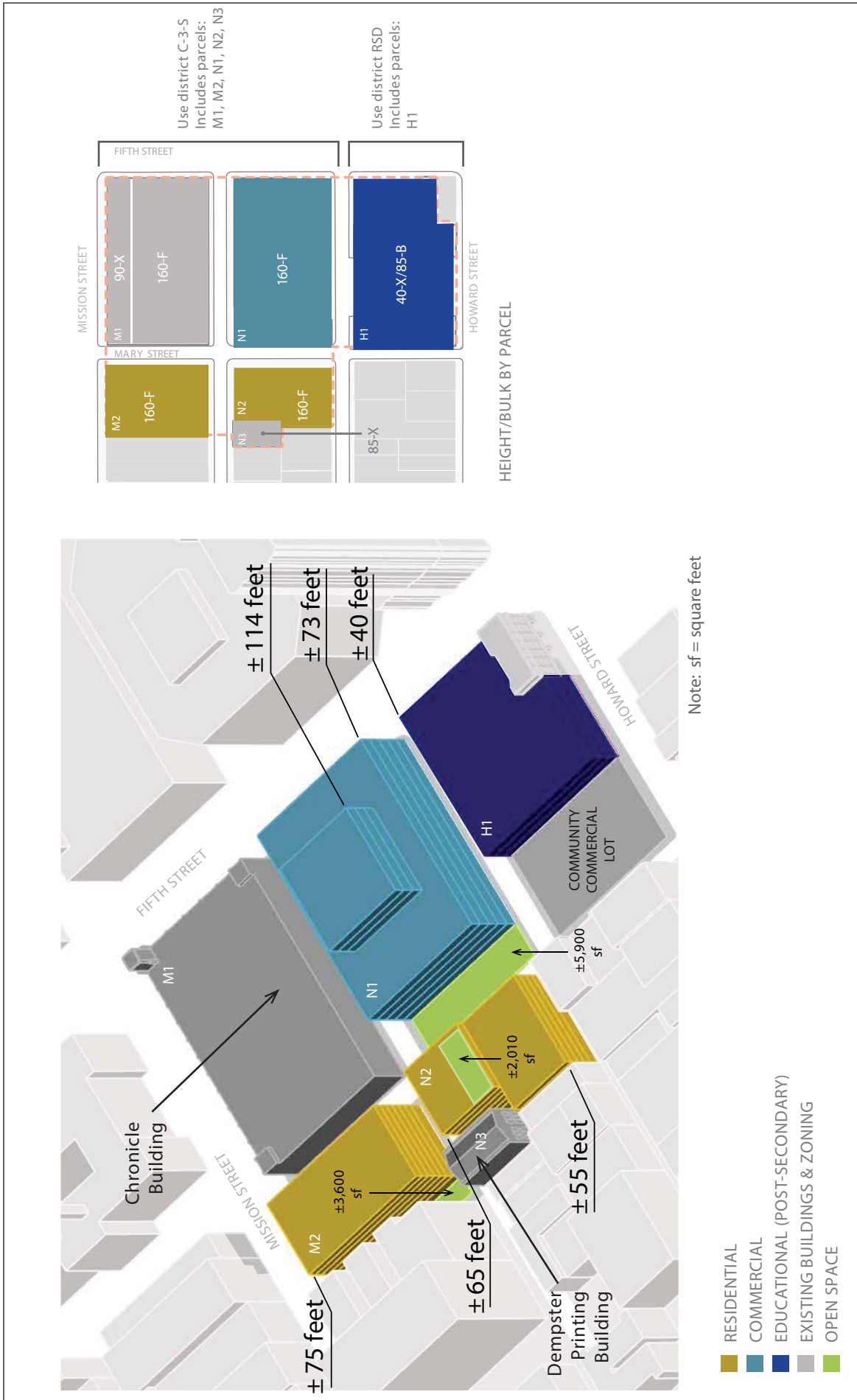


FIGURE V-2

NOT TO SCALE

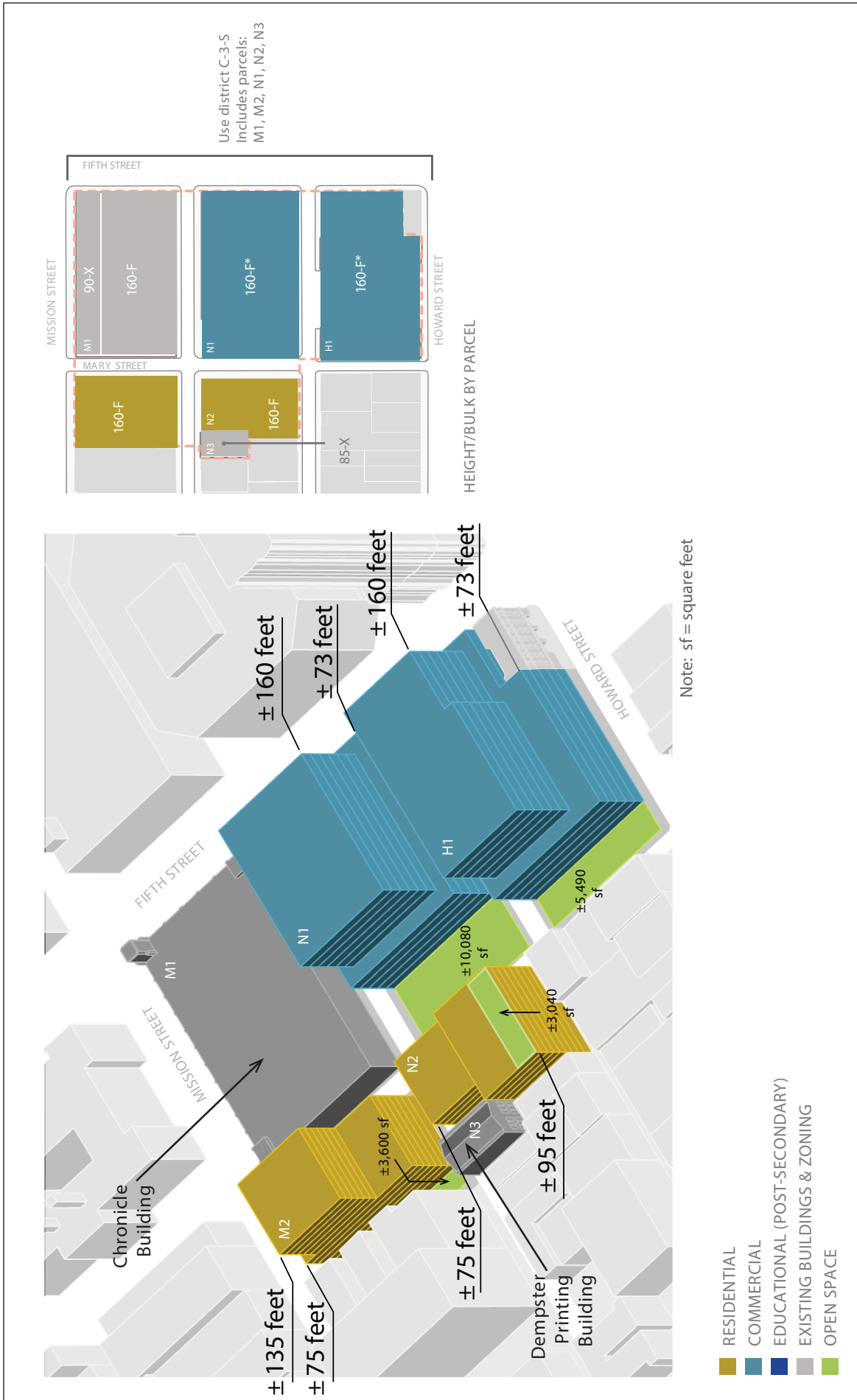


FIGURE V-3

NOT TO SCALE

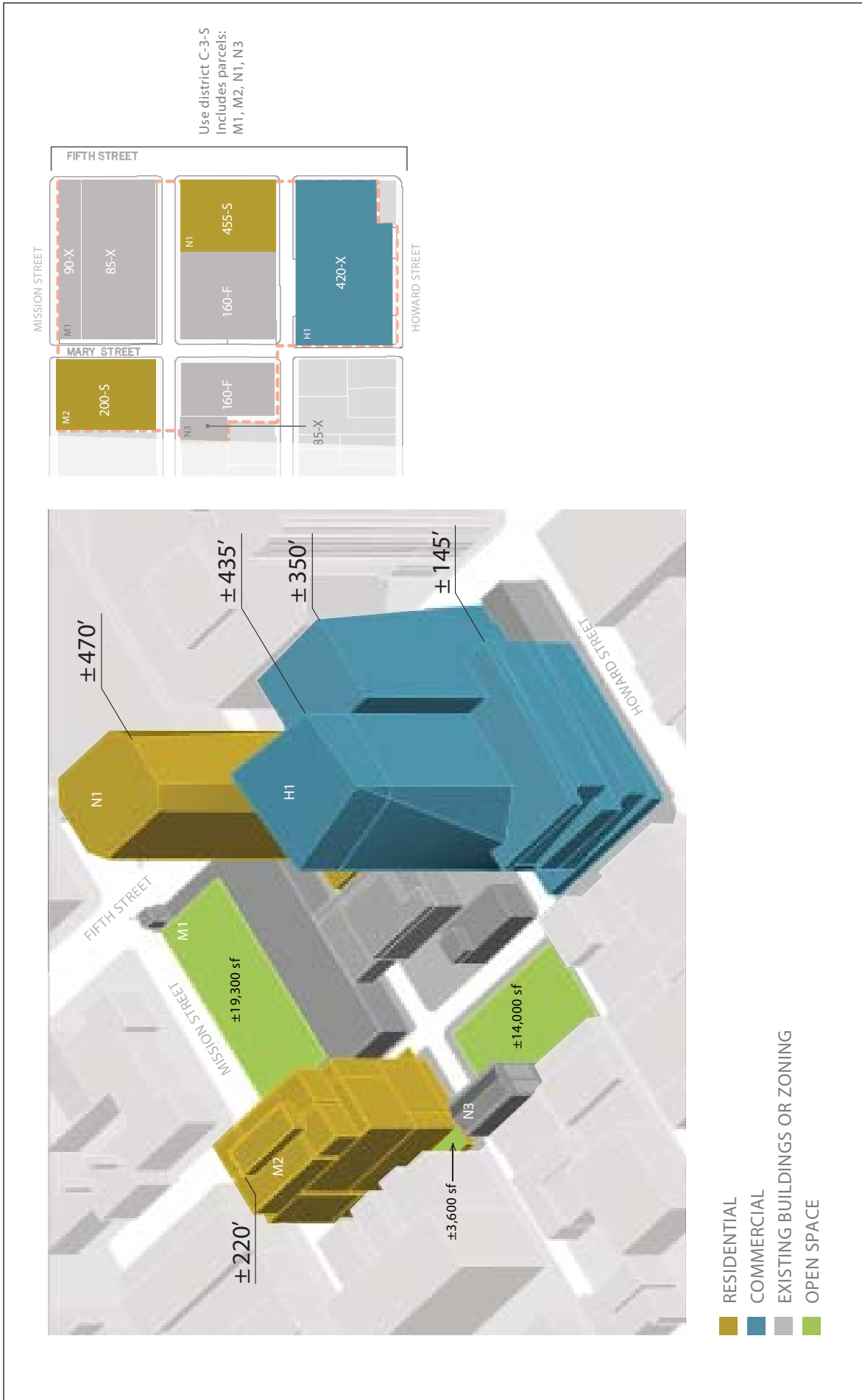


FIGURE V-4

NOT TO SCALE

Table V-1: Summary of Uses

Use	Total Existing (gsf)	Existing to be Replaced or Retained (gsf)	Office Scheme (Proposed Project)		Residential Scheme (Proposed Project)		CODE COMPLIANT ALTERNATIVE		UNIFIED ZONING ALTERNATIVE		PRESERVATION ALTERNATIVE	
			Net New (gsf)	Total Proposed (gsf)	Net New (gsf)	Total Proposed (gsf)	Net New (gsf)	Total Proposed (gsf)	Net New (gsf)	Total Proposed (gsf)	Net New (gsf)	Total Proposed (gsf)
Office	317,700	317,700	554,200	871,900	280,800	598,500	23,900	341,600	392,200	709,900	495,000	812,700
Retail/Active Ground Floor Use	-	-	152,600	152,600	152,600	152,600	151,000	151,000	86,200	86,200	81,900	81,900
Residential	-	-	802,500	802,500	1,057,700	1,057,700	142,000	142,000	226,900	226,900	819,800	819,800
Total Square Footage	317,700	317,700	1,509,300	1,827,000	1,491,100	1,808,800	316,900	634,600	705,300	1,023,000	1,396,300	1,714,000
Parking ^a	68,000	68,000	259,700	327,700	248,700	316,700	-8,581	59,420	11,760	79,760	125,788	193,788
Open Space	-	-	44,600	44,600	59,100	59,100	14,100	14,100	27,500	27,500	40,400	40,400
Dwelling Units	-	-	914	914	1,209	1,209	188	188	275	275	750	750
Parking Spaces	256	256	636	892	802	1,058	-86	170	-28	228	298	554
Number of Buildings	8	2 to 4 ^b	4	6	4	6	4	6	4	6	3	7
Height of Buildings	15 to 65 feet	31 to 65 feet	50 to 470 feet	50 to 470 feet	50 to 411 feet	50 to 411 feet	-	40 to 114 feet	-	50 to 160 feet	-	31 to 470 feet

Note: All areas rounded to nearest 100 square feet.

gsf = gross square feet

^a Parking square footage does not include building cores, mechanical equipment, or areas devoted to bicycle parking.

^b Two existing buildings (Chronicle Building and Dempster Building) would be retained under the Code Compliant and Unified Zoning Alternatives. Three buildings and one partial building (the Chronicle Building, Camelline, Building, Dempster Building, and partial Examiner Building) would be retained under the Preservation Alternative.

Source: Forest City Residential Development, Inc., 2014.

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Table V-2: Uses by Building

Building	Cross Streets	Office Scheme (Proposed Project)				CODE COMPLIANT ALTERNATIVE				UNIFIED ZONING ALTERNATIVE				PRESERVATION ALTERNATIVE			
		Office (gsf)	Active Ground Floor Uses (gsf)	Residential (gsf)	Total (gsf)	Office (gsf)	Active Ground Floor Uses (gsf)	Residential (gsf)	Total (gsf)	Office (gsf)	Active Ground Floor Uses (gsf)	Residential (gsf)	Total (gsf)	Office (gsf)	Active Ground Floor Uses (gsf)	Residential (gsf)	Total (gsf)
M-1 (Chronicle Building) ^a	Mission and Fifth Streets	84,800	42,400		127,200	136,300	42,400	-	178,700	136,300	42,400	-	178,700	213,800	-	-	213,800
M-2	Mission and Mary Streets	-	13,600	242,900	256,500	-	13,600	80,400	94,000	-	13,600	127,400	141,000	-	13,600	242,900	256,500
Camelline Building	Mary and Natoma Streets	-	-	-	-	-	-	-	-	-	-	-	-	9,600	-	-	9,600
N-1	Minna and Fifth Streets; Mary and Natoma Streets	-	17,900	559,600	577,500	193,300	8,600	-	201,900	268,100	7,600	-	275,700	-	18,000	576,900	594,900
N-2	Minna and Mary Streets	180,000	28,400		208,400	-	13,900	61,600	75,500	-	13,900	99,500	113,400	-	-	-	-
N-3 (Dempster Printing Building)	Minna and Mary Streets	12,000	-	-	12,000	12,000	-	-	12,000	12,000	-	-	12,000	12,000	-	-	12,000
H-1	Natoma and Fifth Streets; Howard and Fifth Streets	577,300	50,300		627,600	-	72,500	-	72,500	293,500	8,700	-	302,200	577,300	50,300	-	627,600
H-1 N-2 Connector	Fifth and Mary Streets	17,800	-	-	17,800	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS		871,900	152,600	802,500	1,827,000	341,600	151,000	142,000	634,600	709,900	86,200	226,900	1,023,000	812,700	81,900	819,800	1,714,400

^a For the Preservation Alternative this calculation also includes the partial Examiner Building

Notes: All areas rounded to nearest 100 square feet. "Active ground floor uses" office, retail, educational, and cultural uses.

gsf = gross square feet

Source: Forest City Residential Development, Inc., 2014.

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NO PROJECT ALTERNATIVE

Description

Under the CEQA-required No Project Alternative, the site would generally remain in its existing condition and would not be redeveloped with a mix of office, retail, residential, cultural, educational, and open space uses. This alternative is intended to reduce or avoid impacts associated with building demolition, construction activities, and effects associated with the operation of more intense uses on the site. All structures on the site would be retained, including the six buildings and a two-story above-ground connector that would be demolished as part of the project. Under this alternative, the site would continue to contain eight buildings ranging in height from 15 to 65 feet in height that comprise a total of approximately 317,700 gross square feet (gsf) of office and light industrial building space. In addition, the site would continue to include approximately 256 parking spaces (including 36 parking spaces located outside the project site that are accessory to the Chronicle Building) in surface parking lots. The existing circulation system of the site and its immediate surroundings would also remain under the No Project Alternative, with Natoma and Minna Streets providing eastbound and westbound access through the site, respectively, and Mary Street providing northbound access. No segments of roadways within the site would be realigned or converted to pedestrian-only alleys. Furthermore, no additional open space would be developed within the site.

The existing development controls on the site would continue to govern site development and would not be changed by General Plan, Planning Code, and Zoning Map amendments, including a Special Use District (SUD) and Design for Development (D4D) document. The site would remain under existing density and height and bulk standards defined for the C-3-S and Residential Services (RSD) districts, and the 160-F/90-X, 160-F, 40-X/85-B height and bulk districts, and no new development would occur.

The No Project Alternative is based on the assumption that buildings on the site would be maintained in the near-term and could be occupied by organizations that are different than those that currently use the buildings (but allowed under existing zoning) – as tenant turnover occurs. New organizations with different space utilization programs than existing tenants could change the number of employees

that occupy the site. However, for the purposes of this evaluation of alternatives, it is assumed that there would be approximately 943 full-time equivalent (FTE) employees on the project site, similar to existing conditions. There would be no residential population on the project site.

Objectives

Because the physical environment of the site would be unchanged, the No Project Alternative would not achieve all but one of the project sponsor's objectives for the project (the alternative would achieve the objective of retaining the Chronicle Building and Dempster Printing Building). In particular, objectives regarding the development of a dense, mixed-use project in close proximity to transit, high-quality housing, generating new employment opportunities, and the creation of a vibrant ground plane on the site would not be achieved. Some of the existing site tenants, including those engaged in technology, arts, and educational endeavors, may continue to occupy the site, but the intensity of such uses on the site would not increase under the No Project Alternative.

Impacts

Land Use. The land uses, land use pattern, and building configuration of the site would remain unchanged as part of the No Project Alternative. The project site would continue to be occupied by tenants that are expected to be similar in type to those that occupy the existing office and light industrial space on the site. No changes in land use controls, including an SUD and D4D document, would be implemented as part of the alternative. Like the proposed project, the No Project Alternative would not divide an established community or conflict with applicable land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. Similarly, the land use character of the site, which is characterized by a mix of generally older buildings and surface parking lots, is expected to remain unchanged in the near term under the alternative. Therefore, the alternative, similar to the proposed project, would not make a considerable contribution to cumulative changes in land use associated with past, present, and reasonably foreseeable future development in the vicinity of the site.

Population and Housing. Similar to the proposed project, the No Project Alternative would not substantially induce population growth, either directly or indirectly, and would not create a substantial demand for housing beyond that proposed. Under the No Project Alternative, the site in the near-term would continue to be occupied by approximately 943 FTE employees, although this number could change in the longer-term as the existing tenant mix changes. No housing, including market rate and affordable units, would be built on the site, including those required as part of the project, pursuant to the Inclusionary Housing requirements of Planning Code Section 415; therefore, the alternative would not expand the City's housing supply. Compared to the project, the No Project Alternative would result in no net new induced demand for housing, but no residential population would be introduced to the site. Because the No Project Alternative would not generate a substantial amount of new employees, and would not generate any new residents, it would not make a substantial contribution to cumulative impacts related to population growth and housing demand.

Cultural and Paleontological Resources. The No Project Alternative would avoid the adverse effects of the project on cultural resources, including the significant unavoidable effects resulting from the demolition of the Camelline Building, which is a historic resource pursuant to CEQA. The No Project Alternative would also avoid less-than-significant impacts to historic buildings adjacent to the site and existing historic buildings on the site – including the Chronicle Building and Dempster Printing Building – associated with changes in building mass, scale, and design that would result from the project. Because no ground disturbance would be required as part of the alternative, the No Project Alternative would not have the potential to adversely affect adjacent historic structures that may be sensitive to construction activities or archaeological and paleontological resources, and human remains, and no mitigation for the identification, evaluation, and protection of such resources would be required.

Transportation and Circulation. Existing circulation patterns would continue on the site under the No Project Alternative. Unlike the proposed project, under the No Project Alternative there would be no changes to traffic, transit, pedestrian, bicycle, loading, emergency vehicle access, or parking conditions compared to existing conditions. Therefore, compared to the proposed project, which

would have significant traffic impacts, less-than-significant with mitigation pedestrian impacts, and less-than-significant transit, bicycle, loading, emergency vehicle access, and transportation-related construction impacts, the No Project Alternative would not result in any impacts related to transportation and circulation. However, changes to the circulation system within the site that would occur as part of the project and could result in beneficial impacts to the pedestrian environment, such as the conversion of Mary Street between Mission and Minna Streets to a pedestrian-only alley, would also not occur under the alternative.

Noise. The No Project Alternative would avoid demolition and construction activities on the project site. Therefore, the site vicinities would not experience temporary increases in ambient noise levels and would not result in groundborne vibration. In addition, ambient noise levels would remain similar to existing conditions under the No Project Alternative. As residential uses would not be developed on the site, mechanical ventilation for residential building would not be required. The alternative would not contribute to less-than-considerable cumulative long-term increases in ambient noise levels.

Air Quality. Because no demolition or construction activities would occur as part of the No Project Alternative, the alternative would avoid the need for mitigation of potentially hazardous construction emissions, and would avoid the potentially significant exposure of sensitive receptors to air pollutants associated with construction of the project. Because the alternative would not increase vehicle trips compared to existing conditions or increase the use of consumer products on the site, it would not contribute to the significant and unavoidable cumulative regional pollutants impact, as identified for the proposed project. However, the existing uses on the project site would continue to generate regional pollutants at less-than-significant levels through their continued operation.

Wind and Shadow. Under the No Project Alternative, wind and shadow conditions around the site would remain unchanged. The No Project Alternative, similar to the proposed project, would not alter wind in a manner that substantially affects public areas. However, the alternative would also not eliminate any of the existing exceedances of the pedestrian hazard criterion, as would occur

under the Office Scheme (the Residential Scheme would eliminate one existing exceedance but also generate one new exceedance). Overall, the Office and Residential Schemes would reduce the total duration of hazard criterion exceedances. This benefit to existing conditions would not occur under the No Project Alternative. The alternative would not cast new shadow on open space facilities in the vicinity of the project site, including Boeddeker Park, Yerba Buena Gardens North, Yerba Buena Children's Play Area, and Mint Plaza, which would receive small amounts of net new shadow due to the project.

Public Services. The No Project Alternative would not generate new employees or residents and thus would not increase demand for fire protection and emergency response; police protection; and library services. Therefore, the alternative would not require the construction or alteration of facilities to provide such services to site tenants. Similar to the project, the No Project Alternative would not result in any significant impacts related to the provision of public services.

Utilities and Service Systems. Utility systems within the project site would remain unchanged in the short-term as part of the No Project Alternative, although upgrades to infrastructure in the longer-term would be expected as part of routine building maintenance or to meet the needs of new tenants. Because no new employees and no new residents would be introduced to the site, the demand for utilities such as water, wastewater and stormwater treatment, and gas and electricity would not be expected to increase, and no new infrastructure or upgraded infrastructure would be required. Therefore, similar to the proposed project, the No Project Alternative would not require or result in the construction of new utility facilities, the construction of which could cause significant effects. However, the No Project Alternative would not result in the construction of new design features in accordance with the Stormwater Design Guidelines that could reduce stormwater volumes discharged from the site and improve the overall quality of stormwater compared to existing conditions.

CODE COMPLIANT ALTERNATIVE

Description

Under the Code Compliant Alternative the site would be developed with a mix of office, residential, retail, cultural, educational, and open space uses in accordance with the existing development controls on the project site. These development controls are the existing density and height and bulk standards defined for the C-3-S and RSD districts, and the 90-X, 160-F, and 40-X/85-B height and bulk districts. This alternative is intended to reduce or avoid less-than-significant impacts associated with building size and mass (i.e., wind and shadow impacts), and significant impacts associated with the operation of more intense uses on the site (i.e., traffic, air quality, and noise impacts). After implementation of the alternative, there would be a total of 634,600 gsf of building space on the site, including 341,600 gsf of office uses, 78,500 gsf of other active ground floor uses (i.e., retail, cultural, and educational uses), 142,000 gsf of residential uses (188 dwelling units), and 72,500 gsf of educational uses. The specific elements of the alternative are described below:

Buildings. The Code Compliant Alternative would result in the retention of two buildings (the Chronicle Building and the Dempster Printing Building), the demolition of six existing buildings (plus a two-story above-ground connector between 901 Mission and 110 Fifth Streets), and the construction of four new buildings on the site. After implementation of the alternative there would be a total of six buildings on the site that range in height from 40 to 114 feet. No building connectors would be developed on the site. Buildings constructed under this alternative would be less dense than those constructed as part of the project. The tallest building, N-1, would be 114 feet in height and would consist of eight stories, the top three of which would be set back in the center of the building. The buildings would be designed in accordance with applicable City design requirements, including those in the Planning Code.

Open Space. The alternative would contain a total of 14,100 square feet of open space, all of which would be provided on-site, including 8,200 square feet of open space for the proposed residential uses (including private residential balconies) and 5,900 square feet of space for the commercial uses. Shared open space would include a 5,900-square-foot open space located to the west of Building N-1,

a 3,600-square-foot open space located to the west of Building M-2, and a 2,010-square-foot deck located on the roof of Building N-2. The remaining open space would be provided in the form of private residential balconies. All ground-level open spaces would be accessible to the public; other open spaces would be private.

Parking and Circulation. The existing system of public streets within the site and its immediate surroundings would remain unchanged under the Code Compliant Alternative, with Natoma and Minna Streets providing eastbound and westbound access through the site, respectively, and Mary Street providing northbound access. Driveways would be developed to provide access to parking areas. No roadways within the project site would be realigned or converted to pedestrian-only alleys. The alternative would contain 170 motor vehicle parking spaces (not including car share spaces) in a surface “Community Commercial Lot” and sub-grade parking structures, not including spaces in the surface lot that could serve off-site uses in the vicinity of the lot. In addition, the alternative would include Class 1 bicycle parking spaces and Class 2 spaces in accordance with Planning Code Section 155.2.¹

Residents and Employees. Using the same generation rates² that were used to calculate the residents and employees that would occupy the project, the Code Compliant Alternative would contain approximately 432 residents and 2,346 employees.

¹ Per *San Francisco Planning Code* Section 155, Requirements for Shower Facilities and Lockers, Class 1 facilities include lockers, check-in facilities, monitored parking, restricted access parking, and personal storage. Class 2 bicycle racks permit the bicycle frame and one wheel to be locked to the rack (with one u-shaped lock), and provide support to bicycles without damage to the wheels, frame, or components.

² Economic & Planning Systems, *Population and Employment Projections for the 5M Development*, August 20, 2013. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E. The generation rates used are 210 gsf of non-residential space per employee and 2.3 residents per dwelling unit. Because they include similar types of land uses in the same project site (although at different intensities), the alternatives discussed herein are anticipated to generate similar rates of employees and residents as the proposed project. Thus the project employee/resident rates are reasonably applied to the alternatives analyzed in this chapter.

Approvals/Entitlements. No General Plan, Planning Code, or Zoning Map amendments would be required to implement this alternative because the alternative would comply with existing development controls for the site. However, an exception to Planning Code Section 134 would be required related to the provision of rear yards, and a variance to Planning Code Section 140 would be required related to exposure of residential units to open space.

Objectives

The Code Compliant Alternative would allow for redevelopment of the site with a mix of land uses, and would therefore meet some of the overarching objectives for the project regarding the development of a mixed-use, transit-oriented, job-and project development, albeit with land uses not contemplated as part of the proposed project due to the continued split zoning (i.e., RSD and C-3-5) of the project site. Because the intensity and variation of proposed uses would be less than that of the project, there would be less variation in terms of building height and mass, less opportunity to develop buildings in a manner that reflects the project's location at the intersection of the Downtown core and SoMa, and limited opportunity to develop buildings that meet market demand by including larger floor plates. Several objectives relating to creating residential/employment density, including meeting job creation goals, creating a mix of residential unit types, contribute to 24-hour activity, and facilitate vibrant ground plane activity would also not be achieved to the extent of the project.

Impacts

Land Use. The Code Compliant Alternative would result in land use impacts that are similar to those that would result from the proposed project, although the intensity of uses would be substantially reduced compared to the proposed project and no General Plan, Planning Code, or Zoning Map amendments would be required to implement the alternative. Similar to the proposed project, the Code Compliant Alternative would not divide an established community or conflict with applicable land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. The land use character of the site would similarly change with the introduction of new buildings and open space facilities, and the introduction of new employees and residents, although to a lesser extent compared to the proposed project. The alternative, similar to the proposed project, would also not

make a considerable contribution to cumulative changes in land use, although the comparatively lower-density building composition/configuration of the alternative may not achieve the objectives of the Central SoMa Plan to the degree of the project. In addition, the provision of a Community Commercial Lot to the west of Building H-1 would not result in adverse land use impacts in and of itself, but would not promote the area-wide planning objectives related to the enhancement of the streetscape and the facilitation of pedestrian activity to the extent of the project.

Population and Housing. The Code Compliant Alternative would result in more modest population and employment growth compared to the project: the alternative would contain 432 residents and 2,346 employees. Similar to the proposed project, the alternative would not substantially induce population growth, either directly, or indirectly, and would not create a substantial demand for housing beyond that proposed. However, the Code Compliant Alternative would be less effective than the project in expanding the City's supply of market-rate and affordable housing. The contribution of the alternative to cumulative population and housing impacts would be less than significant and similar to that of the proposed project.

Cultural and Paleontological Resources. The Code Compliant Alternative would result in impacts to cultural resources that are similar to those that would result from the proposed project. In particular, the alternative would result in the demolition of the Camelline Building, which is a historic resource; this impact, similar to the project, would be significant and unavoidable. In addition, similar to the proposed project, renovation activities could adversely affect the Dempster Printing Building and Chronicle Building. Also, ground disturbance could adversely affect archaeological and paleontological resources, and human remains, but these impacts would be reduced to a less-than-significant level with mitigation. Demolition of the Camelline Building would also result in a significant contribution to the cumulative loss of historic architectural resources in the SoMa area.

Transportation and Circulation. This subsection summarizes and incorporates by reference the 5M Project – Alternatives Assessment Memorandum, prepared by LCW Consulting.³ Under the Code Compliant Alternative, there would be a reduction in total square footage compared to the proposed project. As a result, the number of weekday PM peak hour person and vehicle trips under the Code Compliant Alternative would be less than under the proposed project (see **Table V-3**).

Table V-3: Trip Generation by Mode – Weekday PM Peak Hour, Proposed Project and Code Compliant Alternative

Project/Alternative	Person Trips				Vehicle Trips
	Auto	Transit	Walk/Other ^a	Total	
Proposed Project – Office Scheme	1,116	1,465	1,580	4,161	730
Proposed Project – Residential Scheme	1,064	1,441	1,652	4,157	705
Code Compliant Alternative	655	773	857	2,285	417

^a Other mode includes bicycles, motorcycles, and taxis.

Source: *5M Project – Alternatives Assessment Memorandum*, LCW Consulting, October 2014

Traffic Impacts

As shown in **Table V-3**, the Code Compliant Alternative would generate fewer vehicle trips than the proposed project. During the weekday PM peak hour, the Code Compliant Alternative would generate about 417 vehicle trips, compared to about 730 vehicle trips for the Office Scheme and 705 vehicle trips for the Residential Scheme. Because there would be a reduction in the number of vehicles added to the 21 study intersections, the traffic impacts of the Code Compliant Alternative at the study intersections would be less than, but similar in nature to, those associated with the proposed project. As with the proposed project, the Code Compliant Alternative would result in significant impacts at the intersections of Fourth/Howard, Sixth/Folsom, and Sixth/Brannan Streets. However, the Code Compliant Alternative’s contribution to the critical movements at the intersection

³ LCW Consulting, *Memorandum to Greg Riessen Re: 5M Project – Alternatives Assessment*, September 2014. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

of Sixth/Bryant Streets, which would operate at LOS F under both Existing and Existing plus Project conditions, would not be a considerable contribution, and the Code Compliant Alternative's impact at this intersection would be less than significant. Overall, the Code Compliant Alternative would result in significant traffic impacts at three study intersections (as compared to four intersections with the proposed project), and have less-than-significant impacts at 18 intersections (as compared to 17 intersections with the proposed project).

Similar to the proposed project, the Code Compliant Alternative's impact related to garage operations would be less than significant. **Improvement Measure I-TR-A**, identified for the proposed project and described in Section IV.D, Transportation and Circulation, would also be applicable to further reduce the potential for conflicts between vehicles accessing the project garage and transit, bicyclists, and pedestrians.

Transit Impacts

As shown in **Table V-3**, the Code Compliant Alternative would generate fewer transit trips than the proposed project. During the weekday PM peak hour, the Code Compliant Alternative would generate about 773 transit trips compared to about 1,465 transit trips for the Office Scheme and 1,441 transit trips for the Residential Scheme. With a reduction in the number of transit riders added to the local and regional transit screenlines and corridors, the impacts of the Code Compliant Alternative on local and regional transit capacity utilization would be less than significant, as would the proposed project. Similarly, because the Code Compliant Alternative would generate fewer vehicle and transit trips than the proposed project, project-related transit delays resulting from congestion on study area roadways and passenger loading delays associated with increased ridership on these routes during the PM peak hour would be less than significant, as under the proposed project.

Bicycle Impacts

The Code Compliant Alternative would provide Class 1 and Class 2 bicycle parking spaces, consistent with Planning Code requirements. Similar to the proposed project, the Code Compliant Alternative would result in an increase in the number of vehicles and bicycles in the vicinity of the

project site; however, this increase would not be substantial enough to affect bicycle travel or facilities in the area. The Code Compliant Alternative would not substantially change bicycle travel in the vicinity of the project site, and, therefore, similar to the proposed project, impacts on bicyclists would be less than significant.

Pedestrian Impacts

The Code Compliant Alternative would include widening of the Fifth Street sidewalks adjacent to the project site and Natoma Street sidewalks interior to the project site, similar to the proposed project. However, the Code Compliant Alternative would not include the proposed closure of Mary Street between Minna and Mission Streets to vehicular traffic or the realignment of Mary Street between Minna and Natoma Streets as included in the proposed project. The new uses associated with the Code Compliant Alternative would generate about 40 to 45 percent fewer pedestrian trips than the proposed project during both the midday and PM peak hours. With a reduction in the number of pedestrians added to the local pedestrian network compared to the proposed project, the impacts of this alternative on pedestrian conditions on sidewalks, crosswalks, and corners in the vicinity of the project would be less than, but similar in nature, to the proposed project. The Code Compliant Alternative would not result in the proposed project's significant impact at the east crosswalk of the intersection of Fifth and Mission Streets during the PM peak hour. However, similar to the proposed project, the Code Compliant Alternative would result in a significant pedestrian impact at the southeast corner of the intersection of Fifth and Mission Streets (midday and PM peak hours).

Mitigation Measure M-TR-7, identified for the proposed project, would also be applicable to this alternative and would reduce the Code Compliant Alternative's impact on pedestrians at the southeast corner of the intersection of Fifth and Mission Streets to a less-than-significant level.

Mitigation Measure M-TR-7 would result in widening of the east sidewalk on Fifth Street between Minna and Mission Streets and also the widening of the east crosswalk at the intersection of Fifth and Mission Streets. Therefore, the impacts of the Code Compliant Alternative on pedestrians at this location would be less than significant with mitigation, as would the proposed project.

Improvement Measure I-TR-B, identified for the proposed project and related to reducing pole clutter on the sidewalk adjacent to the project site on Mission Street through the installation of eyebolts in the new buildings to support the overhead wire system, would also be applicable to this alternative.

Loading Impacts

Similar to the proposed project, the Code Compliant Alternative would provide a combination of on-street and off-street commercial loading spaces. Under the Code Compliant Alternative, there would be a reduction in total square footage, as compared to the proposed project, and therefore, loading demand would be reduced under this alternative. Since the Code Compliant Alternative would provide off-street loading spaces and would request additional on-street commercial loading spaces adjacent to the project site, and since the loading demand could be accommodated on site or at nearby existing and proposed commercial loading spaces, loading impacts under this alternative would be less than significant, as would the proposed project. **Improvement Measure I-TR-C**, identified for the proposed project, would also be applicable to this alternative, and would further reduce the Code Compliant Alternative's less-than-significant loading impacts related to potential conflicts between project-generated loading/unloading activities and pedestrians, transit, bicyclists, and autos.

Emergency Access Impacts

Impacts on emergency vehicle access associated with the Code Compliant Alternative would be similar to those associated with the proposed project, and similar to the proposed project, emergency access impacts under this alternative would be less than significant.

Construction Impacts

Construction activities associated with the Code Compliant Alternative would be similar to those described for the proposed project. Similar to the proposed project, the Code Compliant Alternative would result in construction of multiple buildings at the project site over a multiple year buildout

period, and would overlap with construction activities of other projects in the area. Therefore, similar to the proposed project, the Code Compliant Alternative would result in significant construction-related transportation impacts. However, the Code Compliant Alternative would involve substantially less on-site development compared to the proposed project (i.e., about 35 percent of the proposed project development), and the intensity and duration of construction activities would be less than the proposed project. **Mitigation Measure M-TR-10**, identified for the proposed project, would reduce the Code Compliant Alternative's construction-related transportation impacts to less-than-significant levels, and would not result in any secondary transportation-related impacts. **Mitigation Measure M-TR-10** would ensure the maximum degree of coordination between the project sponsor/construction manager and agencies to minimize potential conflicts between construction activities and pedestrians, transit, and autos. Therefore, unlike the proposed project, the Code Compliant Alternative's construction-related transportation impacts would be less than significant with mitigation.

Overall, similar to the proposed project, the Code Compliant Alternative would have significant and unavoidable traffic impacts, less-than-significant with mitigation pedestrian and construction-related transportation impacts, and less-than-significant transit, bicycle, loading, and emergency vehicle access impacts.

2040 Cumulative Conditions

Under 2040 Cumulative conditions, taking into account projected development and implementation of transportation infrastructure projects, traffic volume and vehicle delays are projected to increase at the study intersections, and 17 of the 21 study intersections would operate at LOS E or LOS F conditions during the PM peak hour without the project. Similar to the proposed project, the Code Compliant Alternative would contribute considerably to significant cumulative traffic impacts. However, because the Code Compliant Alternative would generate fewer vehicle trips than the proposed project, the Code Compliant Alternative would contribute considerably to significant cumulative traffic impacts at fewer study intersections. The Code Compliant Alternative would contribute considerably to significant cumulative traffic impacts at three study intersections (i.e., at Fourth/Howard, Sixth/Folsom, and Sixth/Brannan Streets), compared to nine study intersections for the proposed project (i.e.,

at Fourth/Mission, Fourth/Howard, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, Sixth/Folsom, Sixth/Harrison, Sixth/Bryant, and Sixth/Brannan Streets). As for the proposed project, the significant cumulative traffic impacts would be significant and unavoidable. Unlike the proposed project, the Code Compliant Alternative would result in less-than-significant with mitigation cumulative construction-related transportation impacts. Similar to the proposed project, the Code Compliant Alternative would result in less-than-significant cumulative transit, bicycle, pedestrian, loading, and emergency vehicle access impacts.

Noise. Similar to the proposed project, the Code Compliant Alternative would require demolition and construction activities on the site. Therefore, the site vicinity would experience similar temporary increases in ambient noise levels as those identified for the proposed project (although overall noise levels and the duration of the impact may be incrementally reduced due to the smaller amount of development that would occur on the site under the alternative) as well as similar impacts related to groundborne vibration. In addition, ambient noise levels would remain similar to existing conditions under the Code Compliant Alternative. As would the proposed project, residential uses would be developed on the site, which would require mechanical ventilation for residential buildings to reduce interior noise levels to acceptable levels. Similar to the proposed project, the alternative would also not contribute to considerable long-term increases in ambient noise levels.

Air Quality. Similar to the proposed project, demolition and construction activities would occur as part of the Code Compliant Alternative, and the alternative would also require mitigation of potentially hazardous construction emissions, to reduce the potential exposure of sensitive receptors to air pollutants associated with construction activities. Due to the lower number of trips generated and the reduction in the amount of residential space on-site, as shown in **Table V-4**, the Code Compliant Alternative would not result in the significant project level regional pollutant impact, or contribute considerably to the cumulative regional pollutant impact, as identified for the proposed project.

Table V-4: Estimated Daily and Annual Operation-Related Emissions For the Proposed Project and Code Compliant Alternative

	ROG	NOx	PM ₁₀	PM _{2.5}
Projected emissions (pounds per day)				
Total 5M Project Projected Emissions	61	52	9	4
Total Projected Code Compliant Alternative Emissions	23	30	5	3
Significance Threshold	54	54	82	54
Annual Projected Emissions (tons per year)				
Total 5M Project Projected Emissions	11	10	3	1
Total Projected Code Compliant Alternative Emissions	4	6	1	0.3
Significance Threshold	10	10	15	10

Source: ENVIRON International Corporation, April 2014; Wietgreffe, Wade, 2014, 925 Mission Street (5M) Updated Air Quality for the Proposed Project and Project Alternatives. Written communication to Michael Jacinto, San Francisco Planning Department. September 22.

Wind and Shadow. Similar to the proposed project, the Code Compliant Alternative would result in less-than-significant impacts related to wind and shadow patterns. Because buildings would be generally low in scale (Building H-1, the tallest under the alternative, would be 114 feet in height, with a podium extending to approximately 73 feet), shadow would not adversely affect open spaces in the vicinity of the site, including Boeddeker Park, Yerba Buena Gardens North, Yerba Buena Children's Play Area, and Mint Plaza. Similarly, the main podium levels of buildings that would be constructed under the Code Compliant Alternative would extend less than 50 feet above other lower-rise buildings in the vicinity. Furthermore, building mass would be evenly-distributed across the site, which may reduce the potential for new wind hazard exceedances. Therefore, wind conditions at the site may improve incrementally compared to the proposed project. In any case, wind conditions would be somewhat similar in nature to the proposed project and impacts associated with pedestrian comfort and hazards would also likely be less than significant.

Public Services. The Code Compliant Alternative would generate new employees and residents, but in smaller numbers than associated with the proposed project. Therefore, the alternative would increase demand for fire protection and emergency response, police protection, and library services, but similar to the proposed project, such demand would not require the construction or alteration of

facilities to provide such services to site tenants. Similar to the project, the Code Compliant Alternative would not result in any significant impacts related to the provision of public services.

Utilities and Service Systems. Similar to the project, the Code Compliant Alternative would increase water and energy demand over existing levels, increase the generation of wastewater, and require new site-specific utility infrastructure. In general, demand for new utilities would be lower than that associated with the project because the site would accommodate less development, and fewer employees and residents. The utility infrastructure that would be installed on the site could be smaller in capacity than that required to serve the project, but associated ground disturbance would be similar in nature to the proposed project and would occur in an area that is already developed with underground utilities. Redevelopment of the site would require compliance with the Stormwater Design Guidelines. Therefore, similar to the proposed project, the Code Compliant Alternative could reduce existing stormwater volumes and improve quality.

UNIFIED ZONING ALTERNATIVE

Description

Under the Unified Zoning Alternative, the portion of the project site zoned RSD (i.e., the H-1 parcel located at the northwest quadrant of Fifth and Howard Streets) would be rezoned to C-3-S, such that the zoning on the project site would be unified, and the site would be developed with a mix of office, residential, retail, cultural, educational, and open space uses. This alternative is intended to reduce or avoid less-than-significant impacts associated with building size and mass (i.e., wind and shadow impacts), and significant impacts associated with the operation of more intense uses on the site (i.e., traffic, air quality, and noise impacts), while resulting in fewer changes to the overall project program than envisioned under the Code Compliant Alternative. After implementation of the alternative, there would be a total of 1,023,000 gsf of building space on the site, including 709,900 gsf of office uses, 86,200 gsf of active ground floor uses, and 226,900 gsf of residential uses (275 dwelling units). The specific elements of the alternative are described below.

Buildings. Similar to the Code Compliant Alternative, the Unified Zoning Alternative would result in the retention of the Chronicle and Dempster Printing Buildings, the demolition of six existing buildings (plus a two-story above-ground connector between 901 Mission and 110 Fifth Streets), and the construction of four new buildings on the site. After implementation of the alternative there would be a total of six buildings on the site that would range in height from 50 to 160 feet. No building connectors would be developed on the site. Building mass under this alternative would be intermediate between that of the Code Compliant Alternative and the Preservation Alternative (discussed below). Buildings N-1 and H-1 would be the tallest buildings on the site and would consist of 11 stories, with the top six stories stepped back from the podium. The buildings would be designed in accordance with applicable City design requirements, including those in the Planning Code.

Open Space. The alternative would contain a total of 27,500 square feet of open space, all of which would be provided on-site, including 11,900 square feet of open space for the proposed residential uses (including private residential balconies) and 15,600 square feet of open space for the proposed commercial uses. Shared open space would include a 10,080-square-foot open space located west of Building N-1, a 5,490-square-foot open space located west of Building H-1, a 3,600-square-foot open space located to the west of Building M-2, and a 3,040-square-foot deck located on the roof of Building N-2. The remaining open space would be provided in the form of private residential balconies. All ground-level open spaces would be accessible to the public; other open spaces would be private.

Parking and Circulation. Similar to the Code Compliant Alternative, the existing system of public streets within and in the immediate vicinity of the site would remain unchanged under the Unified Zoning Alternative. Driveways would similarly be developed to provide access to parking areas. No roadways within the project site would be converted to pedestrian-only alleys. The alternative would contain 228 motor vehicle parking spaces (not including car share spaces), all of which would be provided in sub-grade parking structures. In addition, the alternative would include Class 1 and Class 2 bicycle parking spaces in accordance with Planning Code Section 155.2.

Residents and Employees. Using the same generation rates that were used to calculate the residents and employees that would occupy the project, the Unified Zoning Alternative would contain approximately 633 residents and 3,791 employees.

Approvals/Entitlements. The Unified Zoning Alternative would require a Zoning Map amendment under which the H-1 parcel would be rezoned from RSD to C-3-S. A General Plan Amendment would also be required to incorporate the H-1 parcel into the Downtown Plan. However, no other General Plan or Planning Code amendments would be required. Exceptions to the following sections of the Planning Code would be required: Section 134 (rear yards); Section 140 (exposure of residential units to open space); and Section 270 (bulk limits for Buildings H-1 and N-1). The exceptions to bulk limits would be in accordance with Section 272, which allows for bulk limits to be exceeded provided “there are adequate compensating factors.” The alternative also assumes that there were be a Transfer of Development Rights (TDR) from the parcels occupied by the retained Chronicle and Dempster Printing Buildings to other parcels on the project site. The resulting increases in building mass would comply with Planning Code floor area ratio (FAR) limitations except for Buildings H-1 and N-1, as described above.

Objectives

The Unified Zoning Alternative would meet some of the overarching project objectives regarding development of a mixed-use, transit-oriented, job creating project because it would allow for the development of new buildings containing a mix of uses on the site. However, because the intensity and variation of proposed uses of uses would be reduced compared to the proposed project (although not to the degree of the Code Compliant Alternative), there would be less variation in terms of building height and mass and less opportunity to develop buildings in a manner that reflects the project’s location at the intersection of the Downtown core and SoMa. Several objectives relating to creating residential/employment density, including meeting job creation goals, creating a mix of residential unit types, contribute to 24-hour activity, facilitate vibrant ground plane activity, and supporting a mix of uses and activities would also not be achieved to the extent of the project.

Impacts

Land Use. The Unified Zoning Alternative would result in land use impacts that are similar to those that would result from the proposed project, although the intensity of uses would be reduced compared to the proposed project. Similar to the proposed project, the Unified Zoning Alternative would not divide an established community or conflict with applicable land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. The alternative would require a Zoning Map amendment and a General Plan Amendment in order to merge the zoning of the site and incorporate the H-1 parcel into the Downtown Plan. The land use character of the site would similarly change with the introduction of new buildings and open space facilities, and the introduction of new employees and residents, although to a lesser extent compared to the proposed project. Land use changes that would occur on the site would not conflict with those anticipated as part of area-wide planning efforts such as the Central SoMa Plan; therefore, the Unified Zoning Alternative would not make a substantial contribution to an adverse cumulative land use impact.

Population and Housing. The Unified Zoning Alternative would result in additional residents and employees in the immediate vicinity; the alternative would contain 633 residents and 3,791 employees. Similar to the proposed project, the alternative would not substantially induce population growth, either directly, or indirectly, and would not create a substantial demand for housing beyond that proposed. However, due to the reduced number of residential units, the Unified Zoning Alternative would be less effective than the project at expanding the City's supply of market-rate and affordable housing. The contribution of the alternative to cumulative population and housing impacts would be less than significant and similar to that of the proposed project.

Cultural and Paleontological Resources. The Unified Zoning Alternative would result in impacts to cultural resources that are similar to those that would result from the proposed project. In particular, the alternative would result in the demolition of the Camelline Building, which is a historic resource; this impact, similar to the project, would be significant and unavoidable. Other impacts would include effects to the integrity of historic buildings in the vicinity, and effects to the Dempster Printing Building and Chronicle Building associated with renovation activities. Also, ground

disturbance could adversely affect archaeological and paleontological resources, and human remains, but these impacts would be reduced to a less-than-significant level with mitigation. Demolition of the Camelline Building would also result in a significant contribution to the cumulative loss of historic architectural resources in the SoMa area.

Transportation and Circulation. This subsection summarizes and incorporates by reference the *5M Project – Alternatives Assessment Memorandum*, prepared by LCW Consulting.⁴ Under the Unified Zoning Alternative, there would be a reduction in total square footage, compared to the proposed project. As a result, the number of weekday PM peak hour person and vehicle trips under the Unified Zoning Alternative would be less than under the proposed project (see **Table V-5**).

Table V-5: Trip Generation by Mode – Weekday PM Peak Hour, Proposed Project and Unified Zoning Alternative

Project/Alternative	Person Trips				Vehicle Trips
	Auto	Transit	Walk/Other ^a	Total	
Proposed Project – Office Scheme	1,116	1,465	1,580	4,161	730
Proposed Project – Residential Scheme	1,064	1,441	1,652	4,157	705
Unified Zoning Alternative	761	957	946	2,664	489

^a Other mode includes bicycles, motorcycles, and taxis.

Source: *5M Project – Alternatives Assessment Memorandum*, LCW Consulting, October 2014

Traffic Impacts

As shown in **Table V-5**, the Unified Zoning Alternative would generate fewer vehicle trips than the proposed project. During the weekday PM peak hour, the Unified Zoning Alternative would generate about 489 vehicle trips compared to about 730 vehicle trips for the Office Scheme and 705 vehicle trips for the Residential Scheme. While there would be a reduction in the number of vehicles added to the 21 study intersections, the traffic impacts of the Unified Zoning Alternative at these

⁴ Ibid.

study intersections would be less than, but similar to, those with the proposed project. As with the proposed project, the Unified Zoning Alternative would result in significant impacts at the intersections of Fourth/Howard, Sixth/Folsom, and Sixth/Brannan Streets. However, the Unified Zoning Alternative's contribution to the critical movements at the intersection of Sixth/Bryant Streets, which would operate at LOS F under both Existing and Existing plus Project conditions, would not be a considerable contribution, and the Unified Zoning Alternative's impact at this intersection would be less than significant. Overall, the Unified Zoning Alternative would result in significant traffic impacts at three study intersections (as compared to four intersections with the proposed project), and less-than-significant impacts at 18 intersections (as compared to 17 intersections with the proposed project).

Similar to the proposed project, the Unified Zoning Alternative's impact related to garage operations would be less than significant. **Improvement Measure I-TR-A**, identified for the proposed project, would also be applicable to this alternative to further reduce the potential for conflicts between vehicles accessing the project garage and transit, bicyclists, and pedestrians.

Transit Impacts

As shown in **Table V-5**, the Unified Zoning Alternative would generate fewer transit trips than the proposed project. During the weekday PM peak hour, the Unified Zoning Alternative would generate about 957 transit trips compared to about 1,465 transit trips for the Office Scheme and 1,441 transit trips for the Residential Scheme. With a reduction in the number of transit riders added to the local and regional transit screenlines and corridors, the impacts of the Unified Zoning Alternative on local and regional transit capacity utilization would be less than significant, as would the proposed project. Similarly, because the Unified Zoning Alternative would generate fewer vehicle and transit trips than the proposed project, project-related transit delays resulting from congestion on study area roadways and passenger loading delays associated with increased ridership on these routes during the PM peak hour would be less than significant, as would the proposed project.

Bicycle Impacts

The Unified Zoning Alternative would provide Class 1 and Class 2 bicycle parking spaces consistent with Planning Code requirements. Similar to the proposed project, the Unified Zoning Alternative would result in an increase in the number of vehicles and bicycles in the vicinity of the project site; however, this increase would not be substantial enough to affect bicycle travel or facilities in the area. The Unified Zoning Alternative would not substantially change bicycle travel in the vicinity of the project site, and, therefore, similar to the proposed project, impacts on bicyclists would be less than significant.

Pedestrian Impacts

The Unified Zoning Alternative would include widening of the Fifth Street sidewalks adjacent to the project site and Natoma Street sidewalks interior to the project site, similar to the proposed project; however, the Unified Zoning Alternative would not include the proposed closure of Mary Street between Minna and Mission Streets to vehicular traffic or realignment of Mary Street between Minna and Natoma Streets as included in the proposed project. The new uses associated with the Unified Zoning Alternative would generate about 30 to 40 percent fewer pedestrian trips than the proposed project during both the midday and PM peak hours. With a reduction in the number of pedestrians added to the local pedestrian network compared to the proposed project, the impacts of this alternative on pedestrian conditions on sidewalks, crosswalks, and corners in the vicinity of the project site would be less than, but similar to the proposed project. The Unified Zoning Alternative would not result in the proposed project's significant pedestrian impact at the east crosswalk of the intersection of Fifth and Mission Streets during the PM peak hour. However, similar to the proposed project, the Unified Zoning Alternative would result in a significant pedestrian impact at the southeast corner of the intersection of Fifth and Mission Streets (midday and PM peak hours). **Mitigation Measure M-TR-7**, identified for the proposed project, would also be applicable to this alternative and would reduce the Unified Zoning Alternative's impact on pedestrians at the southeast corner of the intersection of Fifth and Mission to a less-than-significant level. **Mitigation Measure M-TR-7** would result in widening of the east sidewalk on Fifth Street between Minna and Mission Streets and also the widening of the east crosswalk at the intersection of Fifth and Mission Streets. Therefore, the

impacts of the Unified Zoning Alternative on pedestrians at this location would be less than significant with mitigation, as would the proposed project.

Improvement Measure I-TR-B, identified for the proposed project and related to reducing pole clutter on the sidewalk adjacent to the project site on Mission Street through the installation of eyebolts in the new buildings to support the overhead wire system, would also be applicable to this alternative.

Loading Impacts

Similar to the proposed project, the Unified Zoning Alternative would provide a combination of on-street and off-street commercial loading spaces. Under the Unified Zoning Alternative, there would be a reduction in total square footage, as compared to the proposed project, and therefore, loading demand would be reduced under this alternative compared to the proposed project. Since the Unified Zoning Alternative would provide off-street loading spaces and require additional on-street commercial loading spaces adjacent to the site, and since the loading demand could be accommodated on site or at nearby existing and proposed commercial loading spaces, loading impacts under this alternative would be less than significant, as would the proposed project. **Improvement Measure I-TR-C**, identified for the proposed project, would also be applicable to this alternative, and would further reduce the Unified Zoning Alternative's less-than-significant loading impacts related to potential conflicts between project-generated loading/unloading activities and pedestrians, transit, bicyclists, and autos.

Emergency Access Impacts

Impacts on emergency vehicle access associated with the Unified Zoning Alternative would be similar to those under the proposed project, and similar to the proposed project, emergency access impacts under this alternative would be less than significant.

Construction Impacts

Construction activities associated with the Unified Zoning Alternative would be similar to those described for the proposed project, and would be significant and unavoidable with mitigation. The Unified Zoning Alternative would involve about 45 percent less on-site development compared to the proposed project, however, similar to the proposed project, under the Unified Zoning Alternative concurrent construction of multiple buildings at the project site would occur over a multiple year buildout period, and would overlap with the construction activities of other projects in the area. Therefore, similar to the proposed project, given the concurrent construction activities, expected intensity, and likely impacts to traffic, transit, and pedestrian and bicycle circulation, construction of the Unified Zoning Alternative would result in significant and unavoidable construction-related transportation impacts. **Mitigation Measure M-TR-10**, which is required for the proposed project, would ensure the maximum degree of coordination between the project sponsor/construction manager and agencies to minimize potential conflicts between construction activities and pedestrians, transit, and autos. **Mitigation Measure M-TR-10** would minimize the Unified Zoning Alternative's impacts related to construction-related transportation impacts; however, construction activities would likely result in disruption and impacts to traffic, transit, pedestrians and bicyclists for a prolonged period. Implementation of this mitigation measure would not result in any secondary transportation-related impacts. Therefore, similar to the proposed project, the Unified Zoning Alternative's construction-related transportation impacts would remain significant and unavoidable.

Overall, similar to the proposed project, the Unified Zoning Alternative would have significant and unavoidable traffic and construction-related transportation impacts, less-than-significant with mitigation pedestrian impacts, and less-than-significant transit, bicycle, loading, and emergency vehicle access.

2040 Cumulative Conditions

Under 2040 Cumulative conditions, considering projected development and implementation of transportation infrastructure projects, traffic volume and vehicle delays are projected to increase at the study intersections, and 17 of the 21 study intersections would operate at LOS E or LOS F

conditions during the PM peak hour. Similar to the proposed project, the Unified Zoning Alternative would contribute considerably to significant cumulative traffic impacts. However, because the Unified Zoning Alternative would generate fewer vehicle trips than the proposed project, the Unified Zoning Alternative would contribute considerably to significant cumulative traffic impacts at fewer study intersections. The Unified Zoning Alternative would contribute considerably to significant cumulative traffic impacts at six study intersections (i.e., at Fourth/Howard, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, Sixth/Folsom, and Sixth/Brannan Streets), as compared to nine study intersections for the proposed project (i.e., at Fourth/Mission, Fourth/Howard, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, Sixth/Folsom, Sixth/Harrison, Sixth/Bryant, and Sixth/Brannan Streets). As with the proposed project, the significant cumulative traffic impacts of the alternative would be significant and unavoidable. Similar to the proposed project, the Unified Zoning Alternative's cumulative construction-related transportation impacts would be significant and unavoidable. Similar to the proposed project, the Unified Zoning Alternative would result in less-than-significant cumulative transit, bicycle, pedestrian, loading, and emergency vehicle access impacts.

Noise. Similar to the proposed project, the Unified Zoning Alternative would require demolition and construction activities on the site. Therefore, the site vicinity would experience similar temporary increases in ambient noise levels as those identified for the proposed project (although overall noise levels and the duration of the impact may be incrementally reduced due to the smaller amount of development that would occur on the site under the alternative, although not to the degree of the Code Compliant Alternative) and impacts related to groundborne vibration. In addition, ambient noise levels would remain similar to existing conditions. As with the proposed project, residential uses would be developed on the site, and associated buildings would require mechanical ventilation to reduce interior noise levels to acceptable levels. Similar to the proposed project, the alternative would not contribute to considerable long-term increases in ambient noise levels.

Air Quality. Similar to the proposed project, demolition and construction activities would occur as part of the Unified Zoning Alternative, and the alternative would also require mitigation of potentially hazardous construction emissions, to reduce the potential exposure of sensitive receptors

to air pollutants associated with construction activities at the site. Due to the lower number of trips generated and the reduction in the amount of residential space on-site, as shown in **Table V-6**, the Unified Zoning alternative would not result in the significant project level regional pollutant impact, or contribute considerably to the cumulative regional pollutant impact, as identified for the proposed project.

Table V-6: Estimated Daily and Annual Operation-Related Emissions For the Proposed Project and Unified Zoning Alternative

	ROG	NOx	PM ₁₀	PM _{2.5}
Projected emissions (pounds per day)				
Total 5M Project Projected Emissions	61	52	9	4
Total Projected Unified Zoning Alternative Emissions	34	37	7	3
Significance Threshold	54	54	82	54
Annual Projected Emissions (tons per year)				
Total 5M Project Projected Emissions	11	10	3	1
Total Projected Unified Alternative Emissions	6	7	1	0.6
Significance Threshold	10	10	15	10

Source: ENVIRON International Corporation, April 2014; Wietgreffe, Wade, 2014, 925 Mission Street (5M) Updated Air Quality for the Proposed Project and Project Alternatives. Written communication to Michael Jacinto, San Francisco Planning Department. September 22.

Wind and Shadow. Similar to the proposed project, the Unified Zoning Alternative would result in less-than-significant impacts related to wind and shadow patterns. Buildings would be 50 to 160 feet in height, and in general, shadow coverage associated with the alternative may be less widespread than the project. In any case, due to the reduced buildings heights, similar to the proposed project, it is not likely that the Unified Zoning Alternative would not interfere with the use of outdoor recreation facilities or other public areas within the project site vicinity, including Boeddeker Park, Yerba Buena Gardens North, Yerba Buena Children’s Play Area, and Mint Plaza. Building massing would be concentrated in the southeast portion of the site (away from the predominant wind direction), and because no towers would be located along the western and northern peripheries of the site, and because the tallest buildings would be lower in height than buildings proposed as part of the project, the Unified Zoning Alternative would not be expected to result in wind conditions that are more severe than those expected to result from the project. Therefore, wind conditions at the site may improve incrementally compared to the proposed project. In any case, wind conditions would be

somewhat similar in nature to the proposed project and impacts associated with pedestrian comfort and hazards would also likely be less than significant.

Public Services. The Unified Zoning Alternative would generate new employees and residents, but in smaller numbers than with the proposed project. Therefore, the alternative would increase demand for fire protection and emergency response, police protection, and library services, but similar to the proposed project, such demand would not require the construction or alteration of facilities to provide such services to site tenants. Similar to the project, the Unified Zoning Alternative would not result in any significant impacts related to the provision of public services.

Utilities and Service Systems. Similar to the project, the Unified Zoning Alternative would increase water and energy demand over existing levels, increase the generation of wastewater, and require new site-specific utility infrastructure. In general, demand for new utilities would be lower than the project because the site would accommodate less development, and fewer employees and residents. The utility infrastructure that would be installed on the site could be smaller in capacity than that required to serve the project, but associated ground disturbance would be similar in nature to the proposed project and would occur in an area that is already developed with underground utilities. Redevelopment of the site would require compliance with the Stormwater Design Guidelines. Therefore, similar to the proposed project, the Unified Zoning Alternative could reduce stormwater volumes and improve quality.

PRESERVATION ALTERNATIVE

Description

The Preservation Alternative would retain the Camelline Building, which would avoid direct historic resources impacts from demolition of the structure that would result from the project. Under the alternative, the site would also be developed with a mix of office, retail, residential, cultural, educational, and open space uses in general accordance with the height and bulk controls that are proposed as part of the project's SUD. After implementation of the alternative, there would be a total of 1,714,400 gsf of building space on the site, including 812,700 gsf of office uses, 81,900 gsf of active

ground floor uses, and 819,800 gsf of residential uses (750 dwelling units). The specific elements of the alternative are described below.

Buildings. The Preservation Alternative would result in the retention of three historic buildings on the site: the Chronicle, Dempster Printing, and Camelline Buildings. In addition, portions of the existing Examiner Building and the connector between the Examiner Building and the Chronicle Building would be partially preserved. This alternative would entail the demolition of the four other existing buildings on the site, and the construction of three new buildings. After implementation of the alternative there would be a total of six buildings on the site that range in height from 31 to 470 feet. No new building connectors would be developed. Building massing would be concentrated around the southern portion of the site, and Buildings H-1 and N-1 would extend to heights of 435 feet and 470 feet, respectively. The buildings would be designed in accordance with an SUD and detailed design guidelines and standards in an accompanying D4D document that would resemble those proposed as part of the project.

Open Space. The alternative would include a total of at least 36,600 square feet of open space, which would be provided on-site (additional open space may be provided surrounding the Camelline Building). As with the proposed project, open space requirements would be satisfied on a shared basis project-wide, in amounts meeting the quantitative requirements of Planning Code Section 135 for residential uses, and Section 138 for non-residential uses. At a minimum, approximately 36,600 square feet of open space would be provided for the proposed residential uses (and of that, approximately 12,550 square feet would be provided on a shared basis to satisfy requirements for commercial uses as well. Shared open space would include a 14,000-square-foot open space west of the Camelline Building across Mary Street, a 19,300-square-foot deck on the rooftop of the Chronicle Building, and a 3,600-square-foot open space adjacent on the west side of Building M-2. All ground-level open spaces and the Chronicle Building rooftop deck would be accessible to the public; other open spaces would be private.

Parking and Circulation. Similar to the Code Compliant and Unified Zoning Alternatives, the existing system of public streets within and in the immediate vicinity of the site would generally remain unchanged, although driveways would be developed to provide access to parking areas. However, like the proposed project, the segment of Mary Street between Mission and Minna Streets would be converted to a pedestrian-only alley that would be closed to vehicle traffic. The alternative would contain 554 motor vehicle parking spaces (not including car share spaces), all of which would be provided in sub-grade parking structures. In addition, the alternative would include Class 1 and Class 2 bicycle parking spaces in accordance with Planning Code Section 155.2.

Residents and Employees. Using the same generation rates that were used to calculate the residents and employees that would occupy the project, the Preservation Alternative would contain approximately 1,710 residents and 4,260 employees.

Approvals/Entitlements. Similar to the proposed project, the Preservation Alternative would require changes to existing development controls for the site (including increases in permitted height and bulk) through General Plan, Planning Code, and Zoning Map amendments, including an SUD and conditional use permits, together with detailed design standards and guidelines for project development established through a D4D document.

Objectives

The Preservation Alternative would achieve some of the project objectives regarding the development of a dense, mixed-use, transit-oriented project because it would allow for the construction of a mixed-use project with development intensities that approach those of the project. Objectives relating to creating residential/employment density, including meeting job creation goals, creating a mix of residential unit types, contribute to 24-hour activity, facilitate vibrant ground plane activity, and supporting a mix of uses and activities would be achieved, but to slightly less of a degree than the project. However, because preserving the three historic buildings on the site (the Chronicle, Dempster Printing, and Camelline Buildings), along with appropriate setbacks, would require building massing to be concentrated around the southeastern portion of the site, the alternative would not achieve

objectives related to the provision of building types to meet the market demand, creating buildings of varying heights and massing and providing appropriate building height transitions to the extent of the proposed project.

Impacts

Land Use. The Preservation Alternative would result in land use impacts that are similar to those that would result from the proposed project, although the intensity of uses would be slightly reduced compared to the proposed project. Similar to the proposed project, the Preservation Alternative would not divide an established community or conflict with applicable land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect. Like the project, the alternative would require General Plan, Planning Code, and Zoning Map amendments, including an SUD and conditional use permit, together with a D4D document. The land use character of the site would similarly change with the introduction of new buildings and open space facilities, and the introduction of new employees and residents. Land use changes that would occur on the site would not conflict with those anticipated as part of area-wide planning efforts such as the Central SoMa Plan; therefore, the Preservation Alternative would not make a substantial contribution to an adverse cumulative land use impact.

Population and Housing. Out of the three development alternatives, the Preservation Alternative would result in population and employment growth closest to that of the project. The alternative would contain a total of 1,710 residents and 4,260 employees, approximately 82 percent of the residential population and 92 percent of employment associated with the Office Scheme. Similar to the proposed project, the alternative would not substantially induce population growth, either directly, or indirectly, and would not create a substantial demand for housing beyond that proposed. The contribution of the alternative to cumulative population and housing impacts would be less than significant and similar to that of the proposed project.

Cultural and Paleontological Resources. The Preservation Alternative would avoid significant unavoidable project-level and cumulative impacts to cultural resources associated with demolition of the

Camelline Building, because the structure would be preserved in-place with open space to the west that would protect the historic integrity of the structure. Other cultural resources impacts would be almost identical to those that would result from the project, including effects to the Dempster Printing Building and Chronicle Building associated with renovation activities. Also, ground disturbance could adversely affect archaeological and paleontological resources, and human remains, but these impacts would be reduced to a less-than-significant level with mitigation.

Transportation and Circulation. This subsection summarizes and incorporates by reference the 5M Project – Alternatives Assessment Memorandum, prepared by LCW Consulting.⁵ Under the Preservation Alternative, there would be a slight reduction in total square footage, compared to the proposed project. As a result, the number of weekday PM peak hour person and vehicle trips under the Preservation Alternative would be less than under the proposed project (see **Table V-7**).

Table V-7: Trip Generation by Mode – Weekday PM Peak Hour, Proposed Project and Preservation Alternative

Project/Alternative	Person Trips				Vehicle Trips
	Auto	Transit	Walk/Other ^a	Total	
Proposed Project – Office Scheme	1,116	1,465	1,580	4,161	730
Proposed Project – Residential Scheme	1,064	1,441	1,652	4,157	705
Preservation Alternative	809	1,220	1,018	3,047	548

^a Other mode includes bicycles, motorcycles, and taxis.

Source: *5M Project – Alternatives Assessment Memorandum*, LCW Consulting, October 2014

Traffic Impacts

As shown in **Table V-7**, the Preservation Alternative would generate fewer vehicle trips than the proposed project. During the weekday PM peak hour, the Preservation Alternative would generate about 548 vehicle trips, compared to about 730 vehicle trips for the Office Scheme and 705 vehicle

⁵ Ibid.

trips for the Residential Scheme. While there would be a reduction in the number of vehicles added to the 21 study intersections, the traffic impacts of the Preservation Alternative at these study intersections would be similar in nature to, but less than, those associated with the proposed project. As with the proposed project, the Preservation Alternative would result in significant impacts at the intersections of Fourth/Howard, Sixth/Folsom, and Sixth/Brannan Streets. In addition, as with the proposed project, this alternative's contribution to the critical movements at the intersection of Sixth/Bryant Streets, which operates at LOS F under existing conditions and Existing plus Project conditions, would be considerable, and the Preservation Alternative would result in a significant impact at this intersection. In addition, the Preservation Alternative would have less-than-significant impacts at 17 of the 21 study intersections, similar to the proposed project.

Similar to the proposed project, the Preservation Alternative's impact related to garage operations would be less than significant. **Improvement Measure I-TR-A**, identified for the proposed project, would also be applicable to further reduce the potential for conflicts between vehicles accessing the project garage and transit, bicyclists, and pedestrians.

Transit Impacts

As shown in **Table V-7**, the Preservation Alternative would generate fewer transit trips than the proposed project. During the weekday PM peak hour, the Preservation Alternative would generate about 1,220 transit trips compared to about 1,465 transit trips for the Office Scheme and 1,441 transit trips for the Residential Scheme. With a reduction in the number of transit riders added to the local and regional transit screenlines and corridors, the impacts of the Preservation Alternative on local and regional transit capacity utilization would be less than significant, as would the proposed project. Similarly, because the Preservation Alternative would generate fewer vehicle and transit trips than the proposed project, project-related transit delays resulting from congestion on study area roadways and passenger loading delays associated with increased ridership on these routes during the PM peak hour would be less than significant, as would the proposed project.

Bicycle Impacts

The Preservation Alternative would provide Class 1 and Class 2 bicycle parking spaces consistent with Planning Code requirements. Similar to the proposed project, the Preservation Alternative would result in an increase in the number of vehicles and bicycles in the vicinity of the project site; however, this increase would not be substantial enough to affect bicycle travel or facilities in the area. The Preservation Alternative would not substantially change bicycle travel in the vicinity of the project site, and, therefore, similar to the proposed project, impacts on bicyclists would be less than significant.

Pedestrian Impacts

The Preservation Alternative would include widening of the Fifth Street sidewalks adjacent to the project site, and Natoma Street sidewalks interior to the project site, similar to the proposed project, however, the Preservation Alternative would not include the proposed closure of Mary Street between Minna and Mission Streets to vehicular traffic or realignment of Mary Street between Minna and Natoma Streets as would occur under the proposed project. The mix of uses associated with the Preservation Alternative would generate about 30 percent fewer pedestrian trips than the proposed project during both the midday and PM peak hours. With a reduction in the number of pedestrians added to the local pedestrian network compared to the proposed project, the impacts of this alternative on pedestrian conditions on sidewalks, crosswalks, and corners in the vicinity of the site would be less than, but similar to the proposed project. The Preservation Alternative would not result in the proposed project's significant pedestrian impact at the east crosswalk of the intersection of Fifth and Mission Streets during the PM peak hour. However, similar to the proposed project, the Preservation Alternative would result in a significant impact at the southeast corner of the intersection of Fifth and Mission (midday and PM peak hours). **Mitigation Measure M-TR-7**, identified for the proposed project, would also be applicable to this alternative and would reduce the Preservation Alternative's impact on pedestrians at the southeast corner of the intersection of Fifth and Mission Streets to a less-than-significant level. **Mitigation Measure M-TR-7** would result in widening of the east sidewalk on Fifth Street between Minna and Mission Streets and also the widening of the east crosswalk at the intersection of Fifth and Mission Streets. Therefore, the impacts of the Preservation

Alternative on pedestrians at this location would be less than significant with mitigation, as under the proposed project.

Improvement Measure I-TR-B, identified for the proposed project and related to reducing pole clutter on the sidewalk adjacent to the project site on Mission Street through the installation of eyebolts in the new buildings to support the overhead wire system, would also be applicable to this alternative.

Loading Impacts

Similar to the proposed project, the Preservation Alternative would provide a combination of on-street and off-street commercial loading spaces. Under the Preservation Alternative, there would be a reduction in total square footage, as compared to the proposed project, and therefore, loading demand would be reduced under this alternative compared to the proposed project. Since the Preservation Alternative would provide off-street loading spaces and would require additional on-street commercial loading spaces adjacent to the site, and since the loading demand could be accommodated on site or at nearby existing and proposed commercial loading spaces, loading impacts under this alternative would be less than significant, as under the proposed project.

Improvement Measure I-TR-C, identified for the proposed project, would also be applicable to this alternative, and would further reduce the Preservation Alternative's less-than-significant loading impacts related to potential conflicts between project-generated loading/unloading activities and pedestrians, transit, bicyclists, and autos.

Emergency Access Impacts

Impacts on emergency vehicle access associated with the Preservation Alternative would be similar to those with the proposed project, and similar to the proposed project, emergency access impacts under this alternative would be less than significant.

Construction Impacts

Construction activities and duration associated with the Preservation Alternative would be similar to those described for the proposed project, and would be significant and unavoidable with mitigation. Overall, the construction-related transportation impacts under this alternative would be similar to the proposed project, as this alternative would involve a similar amount and duration of on-site development as the proposed project. Therefore, similar to the proposed project, given the concurrent construction activities, expected intensity and duration, and likely impacts to traffic, transit, and pedestrian and bicycle circulation, construction of the Preservation Alternative would result in significant and unavoidable construction-related transportation impacts. **Mitigation Measure M-TR-10**, which is required for the proposed project, would ensure the maximum degree of coordination between the project sponsor/construction manager and agencies to minimize potential conflicts between construction activities and pedestrians, transit, and autos. **Mitigation Measure M-TR-10**, identified for the proposed project, would minimize the Preservation Alternative's impacts related to construction-related transportation impacts; implementation of this mitigation measure would not result in any secondary transportation-related impact. However, construction activities would likely result in disruption and impacts to traffic, transit, pedestrians and bicyclists for a prolonged period. Therefore, similar to the proposed project, the Preservation Alternative's construction-related transportation impacts would remain significant and unavoidable.

Overall, similar to the proposed project, the Preservation Alternative would have significant and unavoidable traffic and construction-related transportation impacts, less-than-significant with mitigation pedestrian impacts, and less-than-significant transit, bicycle, loading, and emergency vehicle access impacts.

2040 Cumulative Conditions

Under 2040 Cumulative conditions, taking into account projected development and implementation of transportation infrastructure projects, traffic volume and vehicle delays are projected to increase at the study intersections, and 17 of the 21 study intersections would operate at LOS E or LOS F conditions during the PM peak hour. Similar to the proposed project, the Preservation Alternative would

contribute considerably to significant cumulative traffic impacts. However, because the Preservation Alternative would generate fewer vehicle trips than the proposed project, the Preservation Alternative would contribute considerably to significant cumulative traffic impacts at fewer study intersections. The Preservation Alternative would contribute considerably to significant cumulative traffic impacts at eight study intersections (i.e., at Fourth/Howard, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, Sixth/Folsom, Sixth/Harrison, Sixth/Bryant, and Sixth/Brannan), as compared to nine study intersections for the proposed project (i.e., at Fourth/Mission, Fourth/Howard, Fourth/Folsom, Fifth/Howard, Fifth/Folsom, Sixth/Folsom, Sixth/Harrison, Sixth/Bryant, and Sixth/Brannan). As for the proposed project, the significant cumulative traffic impacts would be significant and unavoidable. Similar to the proposed project, the Preservation Alternative's cumulative construction-related transportation impacts would be significant and unavoidable. Similar to the proposed project, the Preservation Alternative would result in less-than-significant cumulative transit, bicycle, pedestrian, loading, and emergency vehicle access impacts.

Noise. Similar to the proposed project, the Preservation Alternative would require demolition and construction activities on the site. Therefore, the site vicinity would experience similar temporary increases in ambient noise levels and groundborne vibration as identified for the proposed project. In addition, ambient noise levels would remain similar to existing conditions under the Preservation Alternative. As with the proposed project, residential uses would be developed on the site, and associated buildings would require mechanical ventilation to reduce interior noise levels to acceptable levels. Similar to the proposed project, the alternative would also not contribute to considerable long-term increases in ambient noise levels.

Air Quality. As with the proposed project, demolition and construction activities would occur as part of the Preservation Alternative, and the alternative would also require mitigation of potentially hazardous construction emissions, to reduce the potential exposure of sensitive receptors to air pollutants associated with construction activities at the site. The Preservation Alternative would have an overall lower trip generation than the project and include approximately 20 percent less residential units than proposed for the project. Residential land uses and vehicle emissions are the key

contributing factors to project-related Reactive Organic Gas (ROG) emissions; therefore, as shown in **Table V-8**, the slightly lower trip generation and less residential uses of the Preservation Alternative would not result in the significant project level regional pollutant impact, or contribute considerably to the cumulative regional pollutant impact, as identified for the proposed project.

Table V-8: Estimated Daily and Annual Operation-Related Emissions For the Proposed Project and Preservation Alternative

	ROG	NO _x	PM ₁₀	PM _{2.5}
Projected emissions (pounds per day)				
Total 5M Project Projected Emissions	61	52	9	4
Total Projected Preservation Alternative Emissions	50	42	6	3
Significance Threshold	54	54	82	54
Annual Projected Emissions (tons per year)				
Total 5M Project Projected Emissions	11	10	3	1
Total Projected Preservation Alternative Emissions	9	8	1	0.6
Significance Threshold	10	10	15	10

Source: ENVIRON International Corporation, April 2014; Wietgreffe, Wade, 2014, 925 Mission Street (5M) Updated Air Quality for the Proposed Project and Project Alternatives. Written communication to Michael Jacinto, San Francisco Planning Department. September 22.

Wind and Shadow. Under the Preservation Alternative, building heights and mass would be similar to the proposed project, with the exception that interior building heights would generally not increase with partial retention of the existing Examiner Building and elimination of Building N-2. Similar to the proposed project, the Preservation Alternative would result in less-than-significant impacts related to wind and shadow patterns. Similar to the proposed project, taller building heights and towers would be concentrated at the eastern and southern edges of the site implementation of this alternative would not be expected to result in wind conditions that are more severe than those expected to result from the project, although conditions would vary slightly given that the 195-foot tall Building N-2 would not be developed, allowing for a break in tall building forms across the site. Consultation with a qualified technical expert and possible wind tunnel testing may be required to confirm that the Preservation Alternative would not result in new wind exceedances. New shadows would be cast by Buildings N-1, H-1, and M-2, and because these buildings would be similar in height to the proposed project, new shadows cast onto adjacent open space areas, such as Boeddeker

Park, Yerba Buena Gardens North, Yerba Buena Children's Play Area, and Mint Plaza would be similar to the proposed project and associated impacts would also be less than significant.

Public Services. The Preservation Alternative would generate new employees and residents, but in slightly smaller numbers than associated with the proposed project. Therefore, the alternative would increase demand for fire protection and emergency response, police protection, and library services, but similar to the proposed project, such demand would not require the construction or alteration of facilities to provide such services to site tenants. Similar to the project, the Preservation Alternative would not result in any significant impacts related to the provision of public services.

Utilities and Service Systems. Similar to the project, the Preservation Alternative would increase water and energy demand over existing levels, increase the generation of wastewater, and require new site-specific utility infrastructure. In general, demand for new utilities would be slightly lower than that associated with the project because the site would accommodate less development, and fewer employees and residents. The utility infrastructure that would be installed on the site could be smaller in capacity than that required to serve the project, but associated ground disturbance would be similar in nature to the proposed project and would occur in an area that is already developed with underground utilities. Redevelopment of the site would require compliance with the Stormwater Design Guidelines. Therefore, similar to the proposed project, the Preservation Alternative could reduce stormwater volumes and improve water quality.

ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

The following alternatives were considered as part of this alternatives analysis, but ultimately rejected from detailed analysis:

1. *Off-site Alternative.* This alternative was rejected because there are few to no other sites in the downtown area of sufficient size and under single ownership and control that are also in close proximity to major transit hubs that would be developable into a mixed-use project with the intensities and mix of old and new buildings that would be necessary to achieve the project objectives.

2. *Chronicle Tower Alternative.* This alternative would involve the demolition of the southwest portion of the Chronicle Building and the construction of a 370-foot tower in its place. The facades of the building along Mission and Fifth Streets would be retained, along with a portion of the office space in the structure. As part of the alternative, the following buildings would be developed on the site:

- Building M-2: 310-foot, 25-story residential tower on a three-story podium containing office uses;
- Building N-1: 300-foot, 18-story office tower on a three-story podium containing office uses;
- Building N-2: 260-foot, 20-story residential tower on a three-story podium containing office uses; and
- Building H-1: 170-foot, 8-story office tower on a three-story podium containing office uses.

A central open space would be developed near the center of the site, south of the Chronicle Building and west of Building N-1. This alternative was rejected for two key reasons: 1) the alternative would result in significant adverse effects to the Chronicle Building, which is considered a historic resource pursuant to CEQA; and 2) the 310-foot Building M-2 could adversely affect views from Powell Street, which is an important view corridor in the City.

3. *Building M-2 High-Rise Alternative.* Similar to the Chronicle Tower Alternative, this alternative would also involve the demolition of the southwest portion of the Chronicle Building. An L-shaped connector approximately the same height as the Chronicle Building, extending from the Chronicle Building and continuing between Buildings N-1 and M-2 would be developed. The facades of the Chronicle Building along Mission and Fifth Streets would be retained, as well as some of the existing office space in the building. As part of the alternative, the following buildings would be developed on the site:

- Building M-2: 420-foot building containing residential uses;
- Building N-1: 360-foot building containing residential and office uses;

- Building N-2: 70-foot building containing office uses; and
- Building H-1: 220-foot building containing office uses.

Open space would be developed near the center of the site, south of the Chronicle Building and west of Building N-1. Similar to the Chronicle Tower Alternative, this alternative was rejected because it would result in significant adverse effects to the historic integrity of the Chronicle Building and could adversely affect views along Powell Street.

4. *Initial Study Alternative.* An application was filed for the proposed project on February 2, 2012. The project described in the application would have resulted in the retention and renovation of the Chronicle Building and rehabilitation of the Dempster Printing Building, the demolition of six existing buildings and the construction of five new buildings on the site. Buildings would have ranged up to 400 feet in height and contained approximately 1,850,100 gsf of new and existing active ground floor uses (arts/cultural/educational), office, and residential uses. An Initial Study and Notice of Preparation were published for the project in January 2013. Please refer to Appendix A for additional detail. Preliminary analysis indicated the project site and vicinity are prone to strong winds (primarily due to the preponderance of lower-scale buildings to the north and west of the site) and that the project as described in the Initial Study would likely generate hazardous wind conditions. Between March 2013 and July 2013, the project was revised (as part of an iterative process involving real-time wind tunnel analysis) to reduce potential wind exceedances. Approximately 20 discrete design alternatives were modeled to arrive at a design that would not result in hazardous wind conditions. Due to the resulting hazardous wind conditions, the project analyzed in the Initial Study was ultimately rejected.
5. *Taller Buildings M-2 and N-2 Alternative.* This alternative would be similar to the Office Scheme in terms of the configuration of buildings and land uses on the site, but Buildings M-2 and N-2 would each be two stories taller than currently proposed. Other changes from the Office Scheme would include: the provision of rounded corners on Buildings N-1, N-2, and H-1; the location of Building H-1's taller tower along Fifth Street instead of Mary Street; and the slight shortening of Building N-1. This alternative was rejected because it

would generate hazardous wind conditions and would adversely affect the view along Powell Street.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The proposed project would result in significant unavoidable effects related to the demolition of the Camelline Building, which is a historic resource pursuant to CEQA; the contribution to traffic in area intersections; and the release of criteria air pollutants into the atmosphere. Similar to other alternatives for projects in developed areas, the alternative with the least development – in this case the No Project Alternative – would eliminate the most impacts. In this case, the No Project Alternative, which would effectively freeze development on the site, would eliminate less-than-significant impacts associated with larger and taller buildings on the site (e.g., impacts related to wind and shadow), along with significant impacts related to additional human activity on the site and on the local transportation network (e.g., traffic and air quality impacts). The No Project Alternative, which would retain the Camelline Building, would also avoid impacts associated with demolition of that structure. However, the No Project would not meet any of the project objectives.

The Preservation Alternative is identified as the environmentally superior alternative because it would retain the Camelline Building. This would avoid direct historic resources impacts from demolition of the structure that would result from the proposed project; such an impact would be irreversible. In addition, as a result of the slightly lower trip generation and reduced residential uses of the Preservation Alternative, it would not result in the significant and unavoidable air quality impacts identified for the project; the proposed project would generate reactive organic gasses, a regional pollutant, at levels in excess of established thresholds.

However, implementation would not avoid the significant unavoidable transportation and circulation impacts of the project, including the following:

- Significant impacts at four study intersections that would operate at Level of Service (LOS) E or LOS F, and substantial contribution to LOS E or LOS F conditions at one intersection under Existing plus Project conditions.

- Considerable contributions to significant cumulative traffic impacts at nine study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions.
- Disruption of nearby streets, transit service, and pedestrian and bicycle circulation during project construction, individually and when considered with past, present, and reasonably foreseeable future projects.

The Preservation Alternative would achieve some of the project objectives regarding the development of a dense, mixed-use, transit-oriented, job-creating project with a vibrant floor plan because it would allow for the construction of a mixed-use project with development intensities that approach those of the project. However, because preserving the three historic buildings on the site (the Chronicle, Dempster Printing, and Camelline Buildings), along with appropriate setbacks, would require building massing to be concentrated around the southeastern portion of the site, the alternative would not achieve objectives related to the provision of building types to meet the market demand, creating buildings of varying heights and massing, and providing appropriate building height transitions to the extent of the proposed project.

Nevertheless, because the Preservation Alternative would meet some of the objectives of the project, would avoid the irreversible impact to the Camelline Building, would not result in the regional pollutant impact, and would reduce the transportation and circulation impacts, the Preservation Alternative is considered to be the environmentally superior alternative.

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VI. OTHER CEQA CONSIDERATIONS

This chapter discusses the following topics in relation to the proposed project: growth inducement; significant environmental effects that cannot be avoided if the proposed project is implemented; significant irreversible environmental changes that would result if the proposed project is implemented; and areas of controversy and issues to be resolved. This section also includes a summary of the less than significant effects identified in the Initial Study and re-evaluates those conclusions based on changes to the project that have occurred since publication of the Initial Study, as described in Chapter I, Introduction. In most cases, impacts associated with each of the two project schemes would be similar, unless otherwise specifically noted.

GROWTH INDUCEMENT

A project is considered growth inducing if it would directly or indirectly foster substantial economic or population growth, or the construction of substantial amounts of additional housing. Examples of projects likely to result in significant adverse growth inducement include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions in areas that are sparsely developed or undeveloped. The project would be located on an infill site, surrounded on all sides by urban uses, and would not result in the extension of infrastructure into undeveloped areas or the construction of a residential project in an area that is undeveloped or lightly developed.

As discussed in Section IV.B, Population and Housing, the proposed project would result in direct population growth within the City of San Francisco through the construction of either 914 dwelling units under the Office Scheme or 1,209 dwelling units under the Residential Scheme. As a result of this housing construction, the proposed project would directly increase the local population by between 2,084 to 2,757 residents. The increase in population on the site that would result with implementation of the Office Scheme would represent 0.26 percent of the City's 2010 population and

0.24 and 0.23 percent of the City's projected 2020 and 2030 population, respectively. ABAG projects that between 2010 and 2030, the population in the City will increase by 129,565 residents (14 percent); the proposed project would represent 1.6 percent of this projected increase.

The increase in population on the site that would result with implementation of the Residential Scheme would represent 0.34 percent of the City's 2010 population and 0.32 and 0.29 percent of the City's projected 2020 and 2030 population, respectively. ABAG projects that between 2010 and 2030, the population in the City will increase by 129,565 residents (14 percent); the Residential Scheme would represent 2.1 percent of this projected increase.

In addition, new jobs on the site could indirectly induce population growth if persons move to the area as a result of these new jobs. Based on the methodology described in Section IV.B, Population and Housing, the Office Scheme would induce demand for about 1,927 housing units in the City and the Residential Scheme would induce demand for about 1,243 housing units. A comparison of the estimated induced housing demand and the number of housing units that would be developed as part of the project indicate that a substantial imbalance would not occur. Therefore, the project would not create a substantial demand for housing beyond that proposed as part of the project.

The project would not be considered to result in adverse growth inducement because: 1) direct and indirect growth would represent a very small fraction of anticipated population growth in the City; 2) the project site and surrounding areas are identified as suitable for population and employment growth in planning documents such as the Downtown Area Plan; and 3) the northern portion of the project site is part of the Downtown Neighborhoods and Transit Infill Priority Development Area PDA, which is an area designated for compact development, investment in infrastructure, and new housing production and population growth.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD RESULT IF THE PROPOSED PROJECT IS IMPLEMENTED

In accordance with Sections 15126.2(c) and 15127 of the *CEQA Guidelines*, an EIR for a project that involves adoption of a plan or policy, or an ordinance such as would be required for rezoning of the project site, must identify any significant irreversible environmental changes that could result from implementation of the proposed project. Such significant irreversible environmental changes may include current or future uses of non-renewable resources, secondary or growth-inducing impacts that commit future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the *CEQA Guidelines*, irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. In general, such irreversible commitments include the uses of resources such as energy and materials used to construct a proposed project, as well as the energy and natural resources (including water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project.

The project site is located at the intersection of SoMa and Downtown neighborhoods in the City of San Francisco and is primarily surrounded by hotel, retail, office, residential, convention, parking, and public facilities uses. The approximately 4-acre project site is currently developed with eight buildings and seven surface parking lots. Development associated with the proposed project would occur on a site that has been developed with urban uses for over 100 years. While the proposed project would result in an increase in the density of development at the project site through the introduction of new office and active ground floor space, residential dwelling units, and open space, it would retain and renovate two existing buildings, and would be compatible with the existing uses around the site and within Downtown San Francisco.

No significant environmental damage, such as accidental spills or explosion of a hazardous material, is anticipated with implementation of the proposed project. Compliance with federal, State and local regulations, and implementation of Initial Study **Mitigation Measure HZ-1** (which would ensure that subsurface conditions are evaluated further and remediated, if necessary), would ensure this

potential impact would be reduced to a less-than-significant level. As such, no irreversible changes – such as those that might result from construction of a large-scale mining project, a hydroelectric dam project, or other industrial project – would result from development of the proposed project.

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in the Initial Study, the State Department of Conservation designates the site as “Urban and Built-Up Land,” and the site is located in an urbanized area of San Francisco. Therefore, no existing agricultural lands would be converted to non-agricultural uses. In addition, the project site does not contain known mineral resources and does not serve as a mining reserve; thus, development of the proposed project would not result in the loss of access to mining reserves. Please refer to pages 148 to 149 of the Initial Study included in Appendix A for a more detailed discussion of impacts related to agricultural and mining resources.

Construction of the proposed project would require the use of energy, including energy produced from non-renewable resources. Energy consumption would also occur during the operational period of the proposed project. The proposed project would be required to incorporate green building features consistent with the City’s Green Building Ordinance that are anticipated to result in additional reductions in greenhouse gas (GHG) emissions. As discussed in the Greenhouse Gas Emissions Section of the Initial Study (pages 78 to 101), the proposed project would not result in any significant impacts associated with an increase in greenhouse gas emissions or conflict with measures adopted for the purpose of reducing such emissions because the project would be substantially compliant with the City’s Greenhouse Gas Reduction Strategy. Additionally, the proposed project would not require the construction of major new lines to deliver energy or natural gas as these services are already provided in the area. Therefore, the proposed project would not result in a significant impact associated with the consumption of nonrenewable resources.

CEQA CHECKLIST UPDATE

Based on the analysis provided in the Initial Study, included in Appendix A, the proposed project would not result in significant impacts related to the following topics, which are not evaluated in stand-alone topical sections in the EIR: Biological Resources; Geology and Soils; Greenhouse Gas Emissions; Hydrology and Water Quality; Hazards/Hazardous Materials; Mineral/Energy Resources; and Agriculture and Forest Resources. Some topics considered in the Initial Study would require implementation of standard mitigation measures to be implemented prior to or during the construction period to reduce impacts to a less-than-significant level. These measures would likely apply to any redevelopment or construction activities that could occur within the City of San Francisco. **Table S-1** in the Summary of this EIR also includes a summary of the significant impacts and mitigation measures identified in the Initial Study. In addition, the topic of Aesthetics, which includes potential impacts associated with light and glare, was identified for further evaluation in the Initial Study. As discussed on pages 120 and 121 of Chapter IV, Environmental Setting and Impacts, this EIR does not contain a separate discussion of the topic of aesthetics, which can no longer be considered in determining the significance of the proposed project's physical environmental effects under CEQA. However, a discussion of potential impacts related to light and glare is provided in the analysis below.

As previously described, the Initial Study considered the potential effects of an earlier iteration of the proposed project. Since publication of the NOP and Initial Study, the project sponsor undertook changes to the project to address wind and other design-related issues. While the project land uses and basic internal circulation patterns remained the same, the composition of land uses within the site and the massing of buildings changed since the NOP and Initial Study were published.

Under the previous project proposed in January 1013 (January 2013 project) the project sponsor would retain and rehabilitate the Chronicle Building and the Dempster Printing Building, demolish all other buildings on the site, and construct five new buildings with heights ranging from approximately 50 to 400 feet. The January 2013 project included a total of 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. Key changes between the January 2013 project and the current project (Office Scheme and Residential Scheme) are summarized below:

- Up to 70 feet of additional building height;
- Up to 25,100 square feet of additional open space;
- Up to 461 additional residential units (up to 504,900 gsf of additional residential space);
- Reduction of total number of buildings from seven to six;
- Reduction of office space by up to 533,700 gsf; and
- Up to 5,700 gsf of additional active ground floor space.

Because the Initial Study evaluated the environmental effects of the January 2013 project, an analysis of potential effects specific to the Office and Residential Schemes is provided in the discussion below as a supplement to the summary of the Initial Study findings. In no case would the Office or Residential Scheme result in any new significant impacts related to any of the issue topics identified as “no impact” or “less-than-significant” impact in the Initial Study. Similarly, for impacts that were identified as “less-than-significant with mitigation incorporated,” the same mitigation measures would apply to either applicable scheme.

Light and Glare

The Initial Study found that new buildings and illuminated signs proposed as part of the project could increase existing nighttime lighting and glare levels at the project site (page 64). Current sources of light on the project site and surrounding area include nighttime residential, hotel and office lighting within existing buildings, and lighting of streets, public open spaces, storefronts, and building entrances in the vicinity of the project site. The proposed project could increase the amount of light emitted from the site. New lighting would include light emitted from the proposed residential, office, and active ground floor space (including office, retail, educational, and cultural uses) within the proposed buildings. New exterior lighting fixtures would illuminate the open space

areas distributed throughout the site, including those that could be located above renovated Chronicle Building, building entrances, and pedestrian walkways at the ground floor of the proposed development. The D4D permits public art installations within the project site, including murals, sculptures and video displays.

The light and glare generated by developing the proposed project would be typical of structures nearby and throughout the City. Light levels from the proposed project would not exceed levels commonly accepted by residents in an urban setting. Nighttime light levels within the project site would be consistent with those of an urban mixed-use neighborhood. Given the existing urban character of the site and its surroundings, potential new sources of light and glare on the project site would not constitute a substantial source of new light in the vicinity of the project site. The proposed D4D includes guidelines for lighting types and illumination levels to ensure that lighting enhances the ground level and open spaces, but does not intrude upon the surrounding area. High pressure sodium lights would not be permitted.

In addition, the proposed project would not use mirrored glass. The project would comply with Planning Commission Resolution No. 9212, which prohibits the use of mirrored or reflective glass. Exterior lighting for the proposed project would be positioned to minimize glare and would not be in excess of that commonly found in urban areas. For these reasons, the proposed project would have a less-than-significant impact related to light and glare.

Agricultural and Forest Resources

The project site and vicinity are located within an urban area in the City of San Francisco. The site is currently zoned as C-3-S (Downtown Support) and Residential Services District (RSD) on the City's Zoning Map and is classified as "Urban and Built-Up Land" by the State Department of

Conservation.¹ The project site is not used for agricultural production nor does it support forestry resources. Therefore, there would be no impact to agricultural and forestry resources. This conclusion would not change with the modifications to the massing, land use composition, and other characteristics of the project because the underlying existing land uses (and land use history of the site) remain unchanged.

Biological Resources

No special-status plant or animal species are expected to occur on or in the vicinity of the site due to its completely urbanized condition and lack of suitable habitats. The project would not interfere with local wildlife movement or corridors. No riparian vegetation, other sensitive natural communities, federally protected wetlands, or other aquatic features are present on the site. Common wildlife species that are adapted to urban environments would continue to use the site after redevelopment. The site is not subject to a local, regional, or State habitat conservation or natural community plan.

The site is located in a busy urban area and all of the 15 total trees in the project vicinity would be removed as part of the project (including two significant trees within the project site and three significant trees adjacent to the project site). The number and type of trees that would be removed as part of the project would not change from the information provided in the Initial Study. Impacts to nesting birds would be less than significant due to the installation of new street trees and avoidance measures that would be taken during nesting and breeding season. The proposed project would also be required to comply with San Francisco Planning Code Section 139, Standards for Bird-Safe Buildings, which would reduce bird strike deaths. The proposed project would not result in any cumulative effects to biological resources. Therefore, the proposed project would not result in any significant effect with regard to biological resources. The conclusions in the Initial Study regarding biological resources remain applicable to the currently-proposed project due to the relative lack of

¹ California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, *Alameda County Important Farmland 2010 (map)*, 2011. This document is available for review at www.consrv.ca.gov/dlrp/fmmp/index.htm.

significant biological resources on the site and the required implementation of measures to protect birds that would occur regardless of the configuration and massing of uses on the site.

Geology and Soils

No portion of the project site is within the established Alquist-Priolo Earthquake Fault Zone (A-PEFZ), and no active faults are known to pass directly beneath the site. Therefore, impacts associated with fault rupture are low and would be less than significant. The Geotechnical Feasibility Assessment² prepared for the project site concludes that there is a potential for liquefaction or differential compaction that would be reduced to a less-than-significant level with implementation of standard building engineering and design measures. Because the project site is generally flat, lateral spreading would be unlikely to occur. Similarly, the project site is not subject to landslide-related impacts.

The project site is currently entirely covered with impervious surfaces and does not contain native top soil. Compliance with the City's Construction Site Water Pollution Prevention Program during excavation would reduce the potential for erosion to a less-than-significant level. The project site is flat and would have no impact with respect to alterations to topographical features. The project would not result in any cumulative geology and soils impacts. Therefore, the proposed project would not result in any significant effects with regard to geology and soils. The conclusions in the Initial Study regarding geology and soils remain applicable to the currently-proposed project because patterns of site disturbance would not substantially change and building construction and design would remain subject to standard building engineering and design measures.

² Treadwell & Rollo, *Geotechnical Feasibility Assessment, Chronicle Building Sites, Fifth & Mission Streets, San Francisco, California*, September 22, 2008. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

Greenhouse Gas Emissions

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during the demolition, construction, and operational phases. In response to the recognition of California's vulnerability to the effects of climate change, the California legislature passed AB 32, also known as the Global Warming Solutions Act. Part of the strategy to reduce greenhouse gas emissions by this bill includes local government actions. In support of these actions, the City of San Francisco has adopted a number of plans and programs including a Greenhouse Gas Reduction Strategy.

As permitted by CEQA Guidelines Section 15064.4, the GHG analysis includes a qualitative assessment of GHG emissions that would result from the proposed project. Projects that comply with the Greenhouse Gas Reduction Strategy would not result in a substantial increase in GHGs, as the City has shown that the implementation of the Greenhouse Gas Reduction Strategy has resulted in decreased overall communitywide GHGs and achievement of AB 32 GHG reduction targets.

The proposed project would increase the activity on-site due to the development of up to 1,827,000 gsf of new and existing residential, office, retail, cultural, arts, and educational space. In addition, associated infrastructure, open space, and accessory vehicle and bicycle parking would also be developed to support these uses. Therefore, the proposed project would contribute to annual long-term increases in GHGs as a result of increased vehicle trips (mobile sources) and residential and commercial operations that result in an increase in energy use, water use and wastewater treatment, and solid waste disposal. Construction activities would also result in temporary increases in GHG emissions. However, the proposed project would be required to comply with applicable ordinances that reduce greenhouse gas emissions as summarized in Table 10 of the Greenhouse Gas Emissions Section of the Initial Study (page 88), and would be substantially compliant with the City's Greenhouse Gas Reduction Strategy. As such, the proposed project would not result in any significant impacts with respect to GHG emissions. The conclusions in the Initial Study regarding GHG emissions remain applicable to the currently-proposed project because the same GHG emission reduction measures would apply to the current project, even though the specific composition of land uses, and associated design aspects of the project, have changed.

Hazards and Hazardous Materials

The project site is not located within an airport land use plan, or within 2 miles of a public or private airport. Therefore, residents and employees at the site would not be exposed to significant aircraft-related hazards. The project site is located within a Maher area, an area that was highly industrialized and contaminated, or known to consist of imported and potentially contaminated fill from the 1906 earthquake and fire. The Phase I Environmental Site Assessment (ESA)³ prepared for the project site concluded that the concentrations of residual contaminants in the area do not pose a risk to human health or the environment, and that no hazardous materials incidents or violations occurred at the Chronicle or Examiner Buildings. The project site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List); however, that listing would not create a significant hazard to the public or the environment because the contamination related to the Leaking Underground Storage Tank (LUST) was limited to the soil surrounding the tank, and the leakage did not impact groundwater. The LUST was removed in 1999 and the case closed in 2002. No other nearby LUST sites or additional Cortese list facilities would pose a hazard to the future development of the project site.

One building in the site was found to pose a risk of hazardous materials release (other than the potential release of lead and asbestos, which were, historically, commonly occurring building materials). Implementation of Initial Study **Mitigation Measure HZ-1** would reduce the potential for mold release during the renovation of the Dempster Printing Building to less-than-significant level. The ESA also concluded that the potential for releasing asbestos and lead into the air during renovation and demolition would be reduced to a less-than-significant level by compliance with applicable regulations and procedures in the San Francisco Building Code.

³ PANGEA Environmental Services, *Phase I Environmental Site Assessment, San Francisco Chronicle Mission Street Campus*, April 18, 2008. A copy of this document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0409E.

No schools are located within 0.25 mile of the project site. The proposed project would not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project would comply with all applicable Building and Fire Code standards. The project is not expected to contribute to the cumulative release of hazardous materials. Therefore, the proposed project would not result in any significant effects with regard to the release of hazards and hazardous materials. The conclusions in the Initial Study regarding hazards and hazardous materials remain applicable to the currently-proposed project because excavation depths would remain approximately the same as the previous project (to accommodate up to three sub-grade levels), the buildings proposed for demolition on the site (some of which contain hazardous building materials) would remain unchanged, and the pattern of internal street pattern (and associated emergency access) would remain the same.

Hydrology and Water Quality

The proposed project would implement low-impact design (LID) measures and comply with San Francisco Stormwater Design Guidelines, which would reduce impacts to water quality. The Guidelines would ensure that all stormwater generated by the proposed project is managed on-site such that the project would not contribute additional volumes of polluted runoff to the City's stormwater infrastructure. The proposed project would not result in the use of groundwater, although groundwater may be encountered during the project construction period and would be subject to specified water quality standards before being discharged into the sewer system. Additionally, the project would incrementally reduce the amount of impervious surfaces currently located on the project site. Compliance with LID, Stormwater Guidelines and other applicable City regulations would ensure that the project would not substantially deplete groundwater, affect groundwater recharge, or impact water quality.

According to the City's Interim Floodplain Map, the proposed project would not place housing or other structures within a 100-year flood hazard area that would impede or redirect flood flows mapped on a federal Flood Hazard Boundary Map, Flood Insurance Rate Map, or other authoritative flood hazard delineation map. The project site is covered with impervious surfaces and no streams or

creeks occur on the project site. The project site is not located in an area subject to landslides/ mudslides, seiche, tsunami, or reservoir inundation. The proposed project would not substantially change the drainage pattern of the already-urbanized site. The conclusions in the Initial Study regarding hydrology and water quality remain applicable to the currently-proposed project because of the lack of water features on the site, the existing impervious coverage of the site, and the requirement that the project comply with the San Francisco Stormwater Design Guidelines.

Mineral and Energy Resources

The project site is not a designated area of significant mineral deposits and since the project site is developed, future evaluation or designation of the site would not affect or be affected by the proposed project. There are no operational mineral resource recovery sites in the project area whose operations or accessibility would be affected by the construction or operation of the proposed project. Development of mixed commercial, residential, and open space uses as part of the proposed project would not result in the consumption of large amounts of fuel, water, or energy. All buildings constructed as part of the proposed project would meet or exceed current State and local standards regarding energy consumption, including the San Francisco Green Building Ordinance, and, the project meet the equivalent of LEED certification. The proposed buildings would not use fuel or water in an atypical or wasteful manner. The proposed project would not result in cumulatively considerable impacts related to mineral and energy resources. Therefore, the proposed project would not result in significant impacts related to mineral and energy resources. The conclusions in the Initial Study regarding mineral and energy resources remain applicable to the currently-proposed project because the proposed buildings would be subject to the same energy efficiency requirements and building construction would entail similar energy inputs.

SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

As discussed in Chapter IV of this EIR, the proposed project would result in the following significant unavoidable impacts:

- Substantial adverse change in the significance of a historical resource due to the demolition of the Camelline Building (430 Natoma Street), a historical resource under CEQA

- Considerable contribution to the cumulative loss of historic buildings in the SoMa area that would occur as part of the implementation of past, present, and reasonably foreseeable future projects
- Significant impact at four study intersections that would operate at Level of Service (LOS) E or LOS F, and substantial contribution to LOS E or LOS F conditions at one intersection under Existing plus Project conditions
- Considerable contribution to significant cumulative traffic impacts at nine study intersections that would operate at LOS E or LOS F under 2040 Cumulative conditions
- Disruption of nearby streets, transit service, and pedestrian and bicycle circulation during project construction, individually and when considered with past, present, and reasonably foreseeable future projects
- Emission of substantial amounts of Reactive Organic Gases (ROG), a regional pollutant, individually and when considered with past, present, and reasonably foreseeable future projects

AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED

This EIR analyzes the potential environmental effects of the proposed project, as identified in the NOP of an EIR, issued January 30, 2013 (Appendix A of this EIR). The Initial Study attached to the NOP (also included in Appendix A) found that the proposed project would have potentially significant environmental effects in the areas of: Land Use; Aesthetics; Population and Housing; Cultural and Paleontological Resources; Transportation and Circulation; Noise; Air Quality; Wind and Shadow; Public Services and Recreation; and Utilities and Service Systems. With the exception of Aesthetics (now no longer required to be analyzed pursuant to Senate Bill 743; see Summary for more detail), these topics are evaluated as separate topical sections in the EIR.

On the basis of public comments submitted after publication of the EIR Notice of Preparation (NOP), potential areas of controversy and unresolved issues for the proposed project include:

- Provision of affordable housing
- Increases in traffic congestion and changes to circulation patterns
- Pedestrian safety
- Provision of parks and open space
- Conflicts with existing land uses, and compatibility between residential and non-residential land uses
- Impacts to wind and shadow patterns
- Construction period impacts related to transportation, noise, and vibration

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